Introductions
Introductions

Who am I?

Why am I here?

How did I get myself into this mess?
Introductions

Where are we going?

...and what am I doing in this hand basket?
Introductions

Who am I?

- Samba Team member
- jCIFS Team co-founder
- Brain Surgeon, Playwrite, and Spiritual Healer (not really)

This geek here.
Introductions

Why am I Here?

- To tell you about the exciting new documentation...

- ...that covers CIFS circa 1996.
Why am I Here?

- To tell you about the exciting new documentation...

- ...that covers CIFS circa 1996.

Yes, really.

Hang on... I'll explain why this is a good thing.
Introductions

Why am I Here?

- To tell you about the exciting new Microsoft documentation...

- ...that covers CIFS circa 1996.

Part of the MCPP/WSPP documentation set.

On-line and available to the public.
Introductions

Why am I Here?

*Microsoft* asked a member of the *Samba Team* to document SMB/CIFS!
Introductions

Why am I Here?

*Microsoft* asked a member of the *Samba Team* to document SMB/CIFS!

“If you’re surprised, you’re not paying attention.”
Introductions

How did I get myself into this mess?

In a word: *history*
How did I get myself into this mess?

Late 1980's:

- Installed and managed branch-office LANs running DEC Pathworks (DEC's implementation of LAN Manager)
- Wrote a chat utility using NetBIOS Datagram Services over DECnet
How did I get myself into this mess?

Mid to late 1990's:

- Joined the Samba Team
- Rewrote many parts of Samba 2.0
- Started jCIFS
Introductions

How did I get myself into this mess?

Early 2000's ➤ my tenuous claim to fame:

I got tired of annoying Samba-folk with questions,
I got tired of figuring out the same things again and again,
I decided to keep really good notes.
Where are we going?

- **History:**
  *Why it matters.*

- **Scope:**
  *What is covered, & why.*

- **Process:**
  *How we are going about it.*

- **Results:**
  *The benefit to you.*
History
In the early days, *SMB was documented*:

- 1984: IBM Personal Computer Seminar Proceedings, Volume 2, Number 8
- 1986: OpenNET/Microsoft Networks FILE SHARING PROTOCOL EXTENSIONS, Version 1.9, Microsoft and Intel (XENIX extensions)
- 1988: Microsoft Networks/OpenNet, Document Version 2, Microsoft and Intel (Core)
Then things started thinning out.


1996: Microsoft Networks SMB File Sharing Protocol, Document Version 6.0p, Microsoft (Unfinished draft of NT LAN Manager 0.12 documentation.)

1997: A Common Internet File System (CIFS/1.0) Protocol, IETF INTERNET-DRAFT, Paul J. Leach, Dilip C. Naik (Unfinished draft v2 of NT LAN Manager 0.12 specification.)

2002: Common Internet File System (CIFS) Technical Reference, Revision: 1.0, Storage Networking Industry Association (SNIA)

2003: Implementing CIFS...
History

During this time...

- Windows NT
- Windows 2000
- Windows XP
- Windows 2003
- Windows Vista

...and we knew that the documentation we already had was, in places,

- Incorrect
- Incomplete
- Incomprehensible

Never ascribe to malice that which is adequately explained by incompetence. — attributed to Napoleon Bonaparte, among others
This situation made people unhappy.
History

The Misinterpretation:
   - “You guys want our source code!”

The Real Problem:
   - No clear, documented standard for interoperability.

The Proposal:
   - “Write it!”

Those who cannot learn from history are doomed to repeat it. — Santayana
History

Quick intro to the team:

You must be the change you want to see in the world. — Gandhi
Quick intro to the team:
History

Terms and Conditions
Scope
CIFS: A Common Internet File System

What does the term "CIFS" mean this week?
- NT LM 0.12 dialect
  - Not OS/2 LAN Manager
  - Not DOS LAN Manager
  - Certainly not the Xenix dialect
- NT LM 0.12 dialect as of:
  - Windows NT3.51 & NT4 Server
  - Windows NT4 & 98 client

Very Limited Scope.
Must fit within the **TEMPLATE**

- Not a developer's dream
  - There are unusual rules
  - The format is a mix of ISO and IETF Standards styles
  - It was put together by non-techies
- We are committed to making the best of it

(Just as Samba is committed to making the best of SMB/CIFS, eh?)
Remembering Jeremy's 2005-ish "Undocumented CIFS" presentation...

- My team has read the slides.
- We aim to make good use of Section 6: “Windows Behaviors”
- We can use constructive Feedback!
  - We'll be there at least a few more months.
  - We are submitting our own bug reports against existing docs.
Process

- Gozinta
- Gerbilizer
- Comparator Cuff
- Comzouta
- Torque Defibrillator
- Speed Tongue
- Sharpe Thang
- Naughty Bits
Process

Information Gathering

The ancient texts:

- A phenomenal source of... questions.
- Oddities in the old IBM docs
- Hold-overs from the Xenix docs
- A lot to learn from the LANMAN docs
- There are forgotten docs too
- Who here has noticed the references to a SID field in Leach/Naik?
Where the bodies are buried

What I can say about the NT code is that it is pretty much what we expected:

- Relatively thin
- Exposes Windows OS behaviors
- UNDEAD commands (Move/Copy)
- It is very old code now
Process

Writing

All writing is done to a Wiki, maintained within Microsoft.

- It's a scratch pad
- A communication medium
- Provides opportunities to review/rewrite
- Available for MS to monitor

Implementing CIFS was written in public.

- We add questions and comments to the command write-ups as we proceed.
Process

Testing and Code Spelunking

Testing

★ SMB Torture and jCIFS
   🌟 Kludgey modifications to the above
★ Plus a little code of our own

Code Digging

★ Resolve questions
★ Discover nuances
★ Raise new questions
Results

Those that respect the law and love sausage should watch neither being made.
— Mark Twain
Results

Pretty much what we expected

- Studying CIFS raises as many questions as it answers
- We have to "document out" OS behaviors
- The new doc will be
  - more complete
  - more correct
  - more detailed than any previous CIFS doc
- It's still a CIFS doc
Advantages this time 'round:
- Two very different perspectives
- "Are you sure that's how that works?"
- There will be a hand-off

A preview is available!
- We do want feedback

Results

What's next?

💡 Rewrite [MS-SMB]
💡 Review of related docs

🔍 We have been working in these docs for months
🔍 Have already started submitting bug reports
The End
Any Questions?