

# An Open Source NFSv4.1 Client for Windows

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# Project Goals

- ④ NFSv4.1 client supporting:
  - ~ kerberos (including privacy)
  - ~ ipv4/ipv6
  - ~ ACLs
  - ~ Referrals
  - ~ Byte-range locks
  - ~ pNFS files layout



# Selected Challenges

- ④ Windows expertise
- ④ RPC library
- ④ testing



# RPC library

## Ⓢ Requirements:

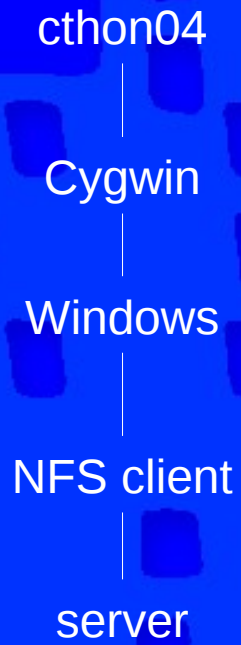
- ~ Liberally licensed
- ~ Supports IPv6, gss
- ~ Runs on Windows

## Ⓢ Choices:

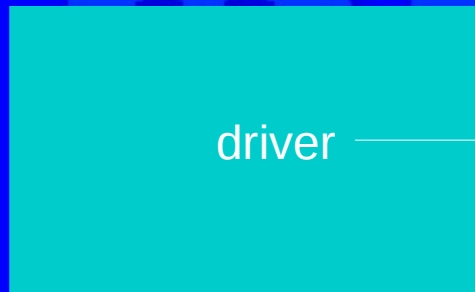
- ~ Old sunrpc
- ~ New tirpc
- ~ pynfs rpc
- ~ Start from scratch



# Testing



# Design

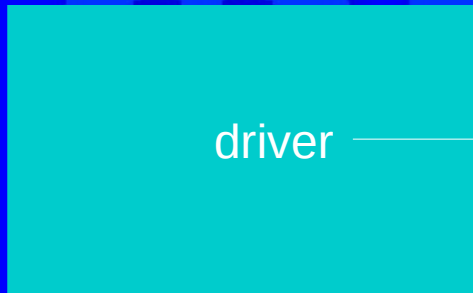


daemon

NFS server



# Design



daemon

NFS server

While true:

Get upcall from kernel  
Process upcall  
Send result to kernel



# Stuff that works:

## Ⓢ RPC:

- ~ Python-based rpc
- ~ tircp Windows port

## Ⓢ Basic sessions layer

## Ⓢ Caching:

- ~ Data caching (no cto)
- ~ Lookup caching

## Ⓢ Basic file operations:

- ~ Mount, umount
- ~ Create, open, close
- ~ Read, write
- ~ Readdir
- ~ Getattr, setattr
- ~ Lock, unlock
- ~ Link, unlink, rename

