



LDAP & CIFS: Do two wrongs make a right ?

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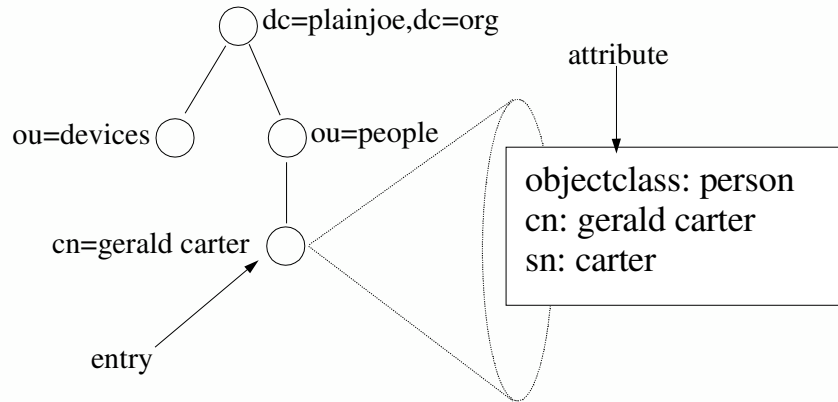
Title #2 Four letter words you can say in public



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LDAP

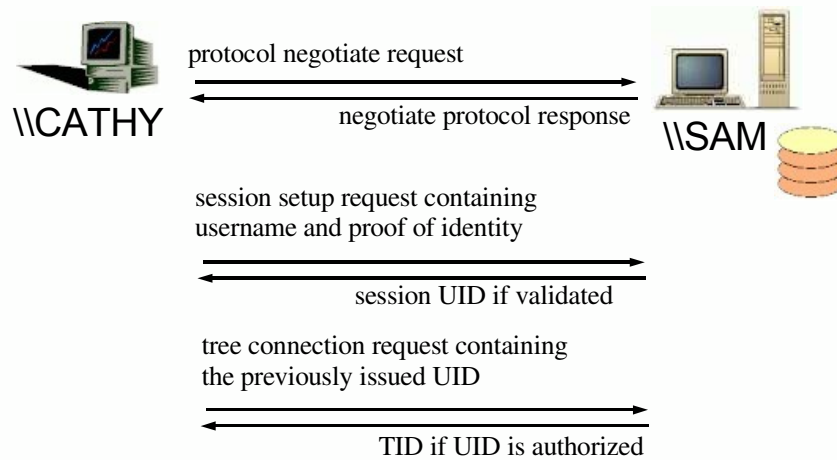
- Standards based (RFC 3377)



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CIFS

- Wire based (RFC 3377)





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Popular Combinations

- **CIFS server uses the directory service**
 - as a configuration repository
 - as another data storage backend for
 - ◆ account information
 - ◆ Windows – UNIX mappings
- **Rely upon the LDAP server's internal replication mechanisms**

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Active Directory The Marriage of LDAP & CIFS

- **AD has become the distributed store for configuration information for**
 - Dfs Roots and Topology
 - Printer Attributes
 - Computers
 - Users
 - Policy Information Locations

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Active Directory - DFS

```
dn: CN=public-dfs,CN=Dfs-Configuration,CN=System,
  DC=books,DC=plainjoe,DC=org
objectClass: fTDfs
cn: public-dfs
instanceType: 4
objectCategory: CN=FT-Dfs,CN=Schema,CN=Configuration,
  DC=books,DC=plainjoe,DC=org
objectGUID:: XxAGDOyRQ0a56LU7/TLGRw==
pKT:: AQAAAAMAAAFAWAZAB...==
pKTGuid:: kRuETnfp2k2yDJbXTs3BuA==
name: public-dfs
remoteServerName: \\WINDC\public
remoteServerName: *
showInAdvancedViewOnly: TRUE
```

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Active Directory - Machines

```
dn: CN=WINDC,OU=Domain Controllers,DC=books,DC=plainjoe,
  DC=org
objectClass: organizationalPerson
objectClass: user
objectClass: computer
memberOf: CN=Cert Publishers,CN=Users,DC=books,DC=plainjoe,
  DC=org
accountExpires: 9223372036854775807
adminCount: 1
badPasswordTime: 0
badPwdCount: 0
codePage: 0
cn: WINDC
countryCode: 0
dNSHostName: windc.books.plainjoe.org
instanceType: 4
isCriticalSystemObject: TRUE
lastLogoff: 0
lastLogon: 127366743120663728
localPolicyFlags: 0
logonCount: 100
```

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Active Directory - Printers

```
dn: CN=WINDC-Apple LaserWriter II NT v47.0,CN=WINDC,
    OU=Domain Controllers,DC=books,DC=plainjoe,DC=org
objectClass: leaf
objectClass: connectionPoint
objectClass: printQueue
cn: WINDC-Apple LaserWriter II NT v47.0
driverName: Apple LaserWriter II NT v47.0
driverVersion: 1025
flags: 0
instanceType: 4
objectGUID:: X8IO14TbVEyqWoE8dfa4AQ==
portName: LPT1:
printColor: FALSE
printDuplexSupported: FALSE
printerName: apple
name: WINDC-Apple LaserWriter II NT v47.0
serverName: windc.books.plainjoe.org
shortServerName: WINDC
uNCName: \\windc.books.plainjoe.org\apple
url: http://windc.books.plainjoe.org/Q1
```

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CIFS Schema

- **Examples of existing schemas**
 - RFC 2307 – posix users and groups
 - RFC 3712 – printer services
 - etc ...
- **What information could be represented?**
 - mimic and extend AD schema
 - access control data (LDAP aci draft)

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cifsSchemaltems ?

- **objectclass: cifsDfsMap**
 - cifsDfsTarget
 - cifsDfsPath
- **objectclass: cifsFileShare**
 - cifsName, cifsPath, cifsACI,
- **objectclass: cifsPrintShare**
 - cifsName, cifsACI

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CIFS Schema Benefits

- **Servers**
 - shared configurations can be pulled by the server rather than pushed to the server
 - inheritance based policy configurations
 - ◆ decisions based on location with the DIT
- **Clients**
 - 3rd party tools can be used to manage CIFS servers from multiple vendors

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Management Protocols

- **SNMP**
 - `%SYSTEMROOT%\System32\lmmib2.mib`
- **MS-RPC**
 - `\PIPE\srvsvc`, et. al.
- **LDAP**
 - configuration data
- **SIM-S, WBEM, WMI, CIM, etc....**
 - Manage network devices

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Simple CIFS Remote Administration Protocol

- **Proposal to implement a new named pipe / end point**
 - `\PIPE\scrap`
- **Purpose is to support a vendor management API for CIFS servers**
 - Is there a need for this ?
 - Can we agree ?

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SCRAP Advantages

- **Does not interfere with Windows clients**
 - clients \geq WinNT assume that the server supports a required set of calls on known MS pipes
- **Common administration protocol for both non-MS and MS servers**
- **Utilizes existing CIFS authentication mechanisms**
- **Can take advantage of packet integrity and privacy options in CIFS**

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Conclusion

- **Topics are currently under exploration**
- **Input is appreciated**
 - Even it is 'you are wasting your time'
- **Provide update at CIFS 2005**
- **Questions?**

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