Federated FS support for SMB (IETF 84)

Rob Thurlow
Solaris NFS Group
A long, long time ago ...

- FedFS teleconferences were happening
- The stated intent was to also support SMB
  - Some day
- Not without issues
  - SMB is not defined by a standards body
- But we can do an Informational RFC
- Who's interested?
- Will the WG support it?
In case you were napping

- FedFS defines FSN, FSL
  - FSN = “fileset name”
    - Mostly just a UUID
  - FSL = fileset location
    - host:/path info + metadata for NFSv4.1
- NFS FSL is defined
- SMB FSL just needs to be
- Assume we can extend FedFS OID space
Implementation Experience

- Work done with Solaris SMB server
- Had to discuss mappings and defaults
- Seems to hang together
Mapping 1

- DFS info maps to FSN
- Can't add fields here
- DFS info has:
  - Comment (use a registered annotation)
  - GUID, a UUID (use FSN)
  - # Targets (count FSLs)
  - State, flags (can't represent, use a default)
  - Timeout (use smallest FSL TTL or default)
Mapping 2

• DFS target maps to FSL
• And we can define freely :-)
• DFS target has:
  • Server - hostname, fedfsFslHost OK
  • Share - relative name, \share1\mydir1
  • State - 1=offline, 2=online
  • Class - -1::4, default 0
  • Rank – 0::65535, default 0
Schema

attributetype (   
1.3.6.1.4.1.31103.1.200 NAME 'fedfsSmbShare'
DESC 'Server-local path to a fileset, a UNC name'
SUP name
SINGLE-VALUE
)
attributetype (   
1.3.6.1.4.1.31103.1.201 NAME 'fedfsSmbState'
DESC 'SMB DFS target state, 1=OFFLINE, 2=ONLINE'
EQUALITY integerMatch
SYNTAX 1.3.6.1.4.1.1466.115.121.1.27
SINGLE-VALUE
)
attributetype (  
  1.3.6.1.4.1.31103.1.202 NAME 'fedfsSmbPriorityClass'  
  DESC 'SMB DFS target priority class, range -1::4'  
  EQUALITY integerMatch  
  SYNTAX 1.3.6.1.4.1.1466.115.121.1.27  
  SINGLE-VALUE  
)  

attributetype (  
  1.3.6.1.4.1.31103.1.203 NAME 'fedfsSmbPriorityRank'  
  DESC 'SMB DFS target priority rank, 0::0x1F'  
  EQUALITY integerMatch  
  SYNTAX 1.3.6.1.4.1.1466.115.121.1.27  
  SINGLE-VALUE  
)
Schema

objectclass (  
  1.3.6.1.4.1.31103.1.1005 NAME 'fedfsSmbFsl'  
  DESC 'An SMB location of a fileset'  
  SUP fedfsFsl STRUCTURAL  
  MUST (  
    FedfsSmbShare  
  )  
  MAY (  
    fedfsSmbState  
    $ fedfsSmbPriorityClass  
    $ fedfsSmbPriorityRank  
  )  
)
Closing

- Who's interested?
- Will the WG support it?
- Thanks for listening!