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

ORACLE

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
    )
```

Schema

```
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!