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FedFS Status and Futures

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FedFS Document Status

Existing documents

- Two documents in RFC Editor queue:
 - “Administration Protocol for Federated Filesystems”
 - “NSDB Protocol for Federated Filesystems”
- Both await completion of RFC 3530bis

FedFS Document Status

New document

- Security update requested
 - Define GSSAPI service name for ADMIN protocol
 - Describe how to fence an NSDB
- Submitted document to address security issues
 - draft-cel-nfsv4-fedfs-security-addendum-00 (July 11)
 - Depends on completion of ADMIN and NSDB documents

FedFS Future Work

In Progress

- Multi-domain authentication
 - Best practices
- SMB support
 - NSDB schema updates
 - FedFS and Samba junction co-existence

FedFS Future Work

Possible new work

- Pre-populating /nfs4
 - But avoiding the 'ls /afs' problem
- Improve use of LDAP
 - New SASL/GSSAPI NSDB connection security mode
 - Same password for ADMIN and NSDB
 - Replace namingContext updates with LDAP search
 - LDAP referrals and update referrals best practices
 - Integrated certificate management (e.g. OCSP)
 - NSDB discovery for admin tools

FedFS Future Work

Possible new work

- New ADMIN operations
 - Remove NSDB connection parameters
 - Fence NSDBs
 - List NSDBs known to a fileserver
 - Flesh out FEDFS_CREATE_REPLICATION and friends
 - Common junction administrative interface
 - FedFS
 - NFS
 - Samba

FedFS Future Work

Possible new work

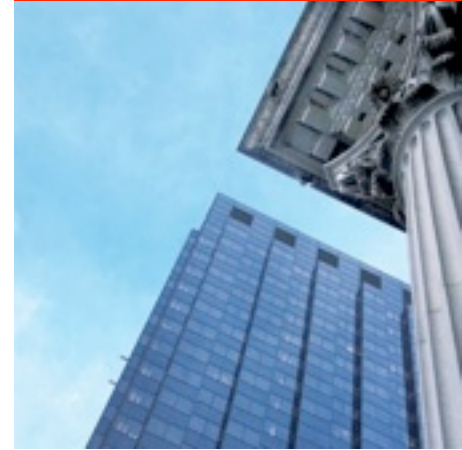
- Not all locations are reachable by every client
 - Non-routeable addresses, like IPv6 link local
 - Fileservers can reside in DMZs
 - Multi-homed servers
- Clients must be quick to select a working location
- fs_locations_info doesn't help NFSv4.0 clients
- Fileservers can sort the locations heuristically

FedFS Future Work

Open discussion

- Other new work not listed?
- Moving forward
 - How do we fix bugs in the FedFS specifications?
 - What is our appetite for FedFS enhancements?

Appendix



Appendix

Avoid modifying root suffix entries

- Each root suffix entry superior to an NSDB Container Entry are configured with
 - Object class “fedfsNsdbContainerInfo”
 - Attribute fedfsNceDn, whose value is the full DN of the NCE

Appendix

Avoid modifying root suffix entries

- Practical objections to this mechanism
 - Altering root suffix entries may not be permitted
 - Altering root suffix entries is done differently for each LDAP server implementation
 - An LDAP search works just as well

Appendix

Avoid modifying root suffix entries

- Let's replace this mechanism
- For each root suffix on an NSDB
 - Client performs a subtree search with filter '&(objectclass=fedfsNsdbContainerInfo)'
 - Distinguished Name of the NCE under that namingContext is part of server's response