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2014 FedFS Update

Chuck Lever
Linux Kernel Architect

What Is FedFS?

- Next generation automounter
  - Links shares on different file servers into a common file namespace
  - Namespace metadata maintained in LDAP using a standard schema

- Referral manager
  - All functionality built on standard feature of modern network filesystems such as SMB and NFS

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Standards Update

- Still in RFC Editor queue:
  - NSDB Protocol for Federated Filesystems
    - draft-ietf-nfsv4-federated-fs-protocol
  - Administration Protocol for Federated Filesystems
    - draft-ietf-nfsv4-federated-fs-admin

- New documents in 2013:
  - Federated Filesystem Security Addendum
    - draft-cel-nfsv4-federated-fs-security-addendum
  - A Simpler Mechanism For Organizing FedFS NSDBs
    - draft-cel-nfsv4-federated-fs-nce

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Standards Update
Security Addendum

- Defines GSS service name for FedFS ADMIN protocol

- Describes procedure for fencing a compromised NSDB

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Standards Update
Simpler NCEs

- Allows creation of NCEs without altering LDAP server's rootDSE

- Proper LDAP queries to discover them

- Rules for transitioning from old to new-style

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Implementation Update

- fedfs-utils 0.9
  - Released February 2013
  - Packaged in Fedora 18, 19, EPEL 6, and RHEL 7

- fedfs-utils 0.10
  - Released February 2014
  - Packaged for Fedora 20 and rawhide

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fedfs-utils 0.10

New Features

- RPCSEC GSS Kerberos for ADMIN protocol
  - Client and rpc.fedfsd

- New administrative tools
  - fedfs-domainroot
  - nsdb-jumpstart

- Simpler NCEs

Where To Go From Here

- Replace x.509 with SASL GSSAPI for NSDB

- fs_locations_info in Linux client
  - Identify servers capable of NFS/RDMA
  - More information for choosing among replicas
  - NFSv4.1 and later

- Graphical namespace administration tool
  - Python or web-based

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Discussion