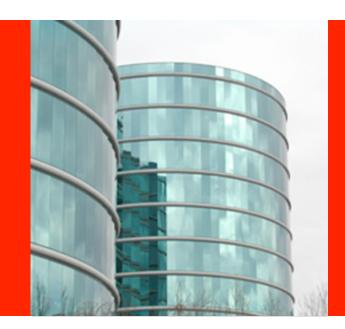
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### **FedFS Domain Root: Observations**

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# **Overview**

- Feature review
- Read-write domain root
- Domain root availability
- SMB support

#### **Salient Features**

- Top-level directory of cross-server namespace
- Contains NFSv4 referrals pointing to actual content
- How to find a domain root on the network:
  - DNS SRV records advertise servers exporting domain root
  - Well-known export path
    - Read-only replica: /domainroot-example.net
    - Read-write replica: /domainroot-write-example.net
- How to find a domain root on an NFS client:
  - Globally-useful names:
    - Read-only replica: /nfs4/example.net
    - Read-write replica: /nfs4/.example.net

#### Read-write domain root

- NFSv4 clients do not manage NFSv4 referrals
  - When would NFS clients need to mount a read-write replica?
- Client pathnames similar to AFS, but not quite the same
  - AFS: writability controlled by volume name
  - NFS: writability controlled by client mount options and inheritance
    - Clients must mount read-only domain root replica readwrite so that users still have full access to submounts
    - Clients might today use "ro" to enable more aggressive caching (use case: shared "/usr")

## **Domain root availability**

- Built-in availability features
  - DNS SRV RRs have weight and priority attributes
    - Client sorts these when it mounts domain root
    - SRV information generally not available in kernel context
- Thus clients with already-mounted domain roots are vulnerable to reboots of servers exporting domain root

## **Future SMB support**

- No FedFS protocol indication to clients whether to mount SMB or NFS version of FedFS domain root
- SMB "//share/path" names do not look like NFS globally-useful names: "/nfs4/domain/path"
- FEDFS\_LOOKUP\_JUNCTION cannot today return an FSL that is not a fedfsNfsFsl

