



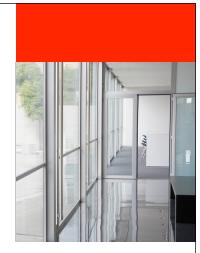
Linux Client-Side Migration Status

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3rd party logo

Migration Outline

- Minor version 0 behavior
- Minor version 1 behavior
- Delivery schedule
- Ongoing testing



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Migration Recovery Architecture

- Migration recovery done in existing state recovery logic
- Separate recovery thread started as needed
- Typically NFS task sleeps while recovery runs
- Callouts handle recovery specific to minor version



NFSv4.0 Migration

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- If op is not LOOKUP, assumes migration
- NFS task sleeps while recovery thread runs
- Source: [PUTFH; GETATTR(fs_locations); RENEW]
- Client attempts to connect a transport to each server in the returned fs_locations list
- Client clones long-form and short-form client ID
- Destination: [RENEW; SETCLIENTID]
- Performs state recovery if needed

Handling NFS4ERR_LEASE_MOVED

- NFS task sleeps while recovery thread runs
- Loops over FSIDs associated with this client ID
 - Sends [PUTFH; GETATTR(type)]
 - If server returns NFS4ERR_MOVED, try migration recovery
 - Repeat until server stops returning NFS4ERR_LEASE_MOVED



NFSv4.1 Migration

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- If op is not LOOKUP, assume migration
- NFS task sleeps while recovery thread runs
- Source: [SEQ; PUTFH; GETATTR(fs_locations)]
- Client attempts to connect a transport to each server in the returned fs_locations list
- Destination: [BIND_CONN_TO_SESSION]
- Performs state recovery if needed

Handling SEQ4_STATUS_LEASE_MOVED

- NFS task does not sleep while recovery thread runs
- Loops over FSIDs associated with this client ID
 - Sends [SEQ; PUTFH; GETATTR(type)]
 - If server returns NFS4ERR_MOVED, try migration recovery
 - Repeat until server clears SEQ4_STATUS_LEASE_MOVED



Delivery Schedule

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- Code review and integration June/July 2011
- Merge with 3.1 August/September 2011
- 3.1 becomes final Thanksgiving 2011?
- UEK lags upstream 12-18 months
- RHEL 6 (and OEL 6) plans unknown



Migration Test Plan

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Ongoing Testing

- Testing with a non-TSM server
- Multiple client ID recovery
- Testing with GSS and security negotiation
- Upstream means wider availability
- NFSv4.1 is unproven until we have a server



- Reconnecting NFSv4.1 clients should try EXCHANGE_ID
- We're not careful yet about using the correct credential for RENEW and SETCLIENTID
- fs_locations_info not yet implemented
 - No sorting of returned fs_locations
 - No support for read, write, readdir, file handle classes
- Volatile file handles not supported



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Hardware and Software

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