

NFS Version 4 WG

58th IETF

Brian Pawlowski – co-chair (sick)

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Things

- Sign the “blue sheets” – name and e-mail address

Note Well

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Agenda

- Welcome and Introduction
- Agenda bash, etc.
 - BLUE SHEETS
 - NOTE WELL
- Bakeathon results and issues
- Review of working group goals and milestones
- Minor revisions to NFSv4
- Draft status and next steps
- Transfer of RPC Numbering to IANA
- Migration/Replication status
- Mapping between NFSv4 and Posix Draft ACLs
- NFS and RDMA/RDDP work
- Open discussion
- Wrapup

NFSv4 Bakeathon

- Held in late October in Austin TX
- Roughly 30 engineers attended
- All implementations have advance significantly
- NFS/Kerberos being tested by all (successfully!)
- Beginnings of migration testing (more later)
- Good implementation discussions
 - Results yet to be posted to the WG alias (coming)
- Next event will be Connectathon 2004
 - www.connectathon.org

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WG Goals

- Shepard NFSv4 and related protocols
- Replication and Migration
- Management
- Minor Versions
- RDMA/RDDP enabling
 - RDMA Charter addition
 - Approved at the first of the year; web site yet to be updated
 - Coming soon (we hope)

WG Milestones

- Mar 03 ADs to submit API advancement internet draft as informational RFC (needed to advance GSSAPI to Draft Standard to allow advancement of NFS Version 4)
- Mar 03 Continued interoperability testing of NFS Version 4
- Apr 03 Internet draft on NFS V4 migration/replication requirements
- Apr 03 AD review of NFS V4 migration/replication requirements draft
- Apr 03 Creation of internet draft on ONC RPC MIB
- Apr 03 Revision of internet draft on NFS MIB
- Apr 03 Draft problem statement I-D for NFS/RPC/RDDP submitted
- May 03 Document full Interoperability tests for all NFSv4 features
- Jun 03 Depending on results of AD review of NFS Version 4 migration/replication requirements document, review scope of task
- Jun 03 Submit related Proposed Standards required by NFS Version 4 for consideration as Draft Standards to IESG - RFCs 1831, 1833, 2203, 2078, 2744, RFC 1964, & 2847

WG Milestones

- Jun 03 Draft requirements document I-D for NFS/RPC/RDDP submitted
- Jun 03 Submit ONC RPC and NFS MIBs to IESG for consideration as Proposed Standards
- Jun 03 Submit an NFS V4 migration/replication protocol to IESG for consideration as a Proposed Standard
- Jun 03 Submit report on results of NFS version 4 RFC interoperability testing
- Jul 03 AD review of NFS/RPC/RDDP progress and charter
- Jul 03 Interoperability tests of NFS V4 migration/replication
- Aug 03 Submit revised NFS Version 4 Proposed Standard for consideration as Draft Standard to IESG

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Minor Versioning

- An unfinished conversation from Connectathon and June's interim meeting
- Need to come to consensus and obtain assistance from area directors
- Alias discussion has been limited with regards to methodology
- Interest in minor versioning capability is keen (lot of discussion about what can be done in an upcoming minor version)

Minor Versioning

- Recap of current proposal
 - Keep the rules from RFC3530
 - Adopt “train model” for regular minor versions
 - Initial draft needed by June 1st
 - Consensus by August 15th
 - Combined draft October 1st
 - Test at Connectathon around March 1st
 - Keep common sense: empty revisions or overly complex ones
 - Keep to charter
 - Close WG when done

Minor Versioning

- Issues raised to date:
 - Use a feature model (“Enough Stuff”) instead
 - How full or empty to change default?
 - Issues with WG charter mechanism
 - WG chairs “measure and cut” a minor rev
 - Prepare feature list and desirable end date but allow reasonable slip to get “interesting” revision
 - Need to close this discussion to move forward

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Status of WG Drafts

- XDR
 - WG last call complete; ready to go to IETF/IESG for review and move to Standard
- RPC (rfc1831bis)
 - WG last call *needed* but no major comments received to date
 - RPC program assignment to IANA; part of the above effort
- Server-to-server repl/migr
 - Further review and implementation needed before WG las call

Status of WG Drafts

- NFSv4.1 SECINFO
 - Straightforward, should move to NFSv4.1 Draft and start minor versioning process
- CCM / Channel bindings
 - Well received and discussion starting outside of NFSv4 WG
- NFSv4 ACL mapping
 - Intent is for Information RFC; discussion still needed

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RPC Numbering Transfer

- Transfer RPC authority from Sun to IANA
 - Will transfer program and auth flavor numbering
- Tracked down prior Sun-IANA history
- Simplified past ideas and wrote an ID
 - Draft-ietf-nfsv4-rpc-iana-00.txt
- Also respun RFC1831 to revise application info:
 - Draft-ietf-nfsv4-rfc1831bis-00.txt
- Straightforward stuff

RPC Numbering Transfer

- Draft-ietf-nfsv4-rpc-iana-00.txt summary
 - Documents past Sun assignment practices
 - Proposes a policy for IANA to issue new individual numbers and number blocks in both number spaces
 - Does not enumerate past assignments: Sun will transfer these to IANA and IANA will publicize them as it sees fit
 - Does not document application procedures but does detail minimum information IANA needs

RPC Numbering Transfer

- Draft-ietf-nfsv4-rfc1831bis-00.txt changes:
 - Rpc@sun.com -> iana@isi.edu
 - Document procedure to apply for new numbers
 - Clean up references, e.g. normative/informative
 - Add a non-null Security Considerations
 - Very slight modernizations but document still compares well side-by-side with “old” one

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Replication & Migration

- Where are we?
 - Currently focusing on server-to-server protocol to transfer or replicate a filesystem
 - Draft-ietf-nfsv4-repl-mig-design-00.txt
 - Was a respin of a personal draft
 - Draft-ietf-nfsv4-repl-mig-proto-00.txt
 - Widely regarded as unimplementable
 - Promised a respin to an RPC protocol at IETF56

Replication & Migration

- Re-spin now available
- Highlights of draft-ietf-nfsv4-repl-mig-protocol.txt
 - Now an RPC protocol (3 procedures)
 - Specifying SNEGO and RPCSEC_GSS security
 - SEND RPC & 12 ops to move data/metadata
 - Simpler session management and multiple sessions
 - Continuous replication possible
 - Filled in holes (delegation state, links, unlocks)

Replication & Migration

- Work yet to be done
 - Rsync-like mode
 - Capabilities negotiation detail
 - Compression algorithms
 - Working with NFSv4 minor revisions
- What next?
 - Prototype implementations!

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NFSv4 ACL Mapping

- Proposes a mapping methodology between NFSv4 ACL format and Posix *draft* ACLs
- Discussion at interim meeting and some initial implementations
- Need to complete details and move through WG last call for Informational RFC

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RDMA/RDDP Enabling

- The performance benefit of RDMA/RDDP transports in NFS-related applications, by reducing the overhead of data and metadata exchange, has been demonstrated sufficiently such that the working group will pursue in parallel enabling NFS and RPC over the transport defined by the RDDP working group. The WG will restrict its initial activities to defining the problem statement and specifying the requirements for possible extensions to RPC and NFS (in the context of a minor revision).

NFS/RDMA Problem Statement

- Talpey and Juszczak tackled first cut of problem statement: draft-talpey-nfs-rdma-problem-statement-00.txt
 - Completed updates - will move to WG doc as soon as I-D window opens
- Callaghan/Wittle working on individual submission for requirements document

NFS/RDMA Requirements

- Talpey and Callaghan have beaten out individual draft of the requirements document
 - Reflects WG discussions on requirements
 - Will enter when I-D submission window opens as individual draft for e-mail discussion on alias

NFSv4 Session and RDMA Extensions

- Shepler and Talpey document.
 - Draft document received many comments, not edited in time for submission as individual ID
 - Expect by December 15

Individual drafts

- NFS Direct Data Placement and RDMA Transport for ONC RPC are not within WG charter
 - Exist as individual drafts pending charter and milestone review and RDDP WG progress
 - Makes for compelling bedtime reading though

Open discussion

IETF 58th – November 14, 2003

End