

# **Security Doc at New Year's**

## ***Retrospect and Prospect***

**David Noveck**  
**For NFSv4 Interim**  
**December 19, 2023**

# Contents

- Background (Slides 3-5)
- The past year:
  - Progress (Slide 6)
  - Challenges (Slide 7)
- Current work (Slide 8)
- Looking forward (Slides 9-10)

# Background

## Slide One of Three

- Part of rfc561bis effort
- Describes security for all minor versions.
- Current draft is [draft-dnoveck-nfsv4-security-07](#)
- No big gaps in areas to be covered, but..
  - Waiting for WG input on items for which WG consensus is needed.
  - Currently, these (~60) are listed in Appendix B of draft.
  - Each corresponds to text annotations that allow group to discuss changes anticipated and possible alternatives..

# Background

## Slide Two of Three

- Original goals:
  - Address lack of threat analyses in existing specs.
  - Correct treatment of AUTH\_SYS
    - Need to explain its security weakness, while realizing it will probably be used indefinitely,
  - Adapt appropriately to the provision of encryption and client peer authentication below the RPC layer (e.g. TLS with RPC)
    - Encryption needs to be available, even when AUTH\_SYS used
    - Client-peer authentication mitigate AUTH\_SYS' lack of authentication.

# Background

## Slide Three of Three

- Need for further work discovered as document was worked on.
  - OWNER, OWNER\_GROUP, and MODE needed to be made **REQUIRED** attributes
  - Pervasive underspecification of security-related semantics.
    - Most prominent is fragmentary approach to the semantics of ACLs
    - This resulted from the attempt to accommodate two different ACL models, without explicitly doing so

# The Past Year

## Progress

- Better elaboration and understanding of the underspecification problem.
  - Including multiple ways of address the fundamental problem of two ACL models.
    - Presented in current draft as consensus items #56 and #61.
- Revised handling of security attributes in -07, including needs for further **REQUIRED** attributes.

# The Past Year

## Challenges

- Lack of working group discussion of the document.
- Unmet need for WG adoption of some security draft.
  - Adoption call for -06 never completed and is now superseded by changes in -07
- The above two have a cause-and-effect relationship, but...
  - It isn't clear which is which.

# Current Work

- Work on security draft paused for now.
  - Waiting for working group discussion and/or adoption call .
  - No point in confusing things by putting a -08 in play.
- Working on gathering detailed information regarding ACL implementations:
  - Working on report regarding ONTAP.
  - Includes description of information required from all implementations.
  - Current draft available to those who want it.
  - Expect final draft to be available in January.

# Looking Forward

## Slide One of Two (1Q2024 Goals)

- Move forward on adoption call
  - Will make appropriate performative utterance later today.
- Need to get closure by a specified date this time
  - Need chair thumbs up or down at meeting and discuss where to go next.
- Completion of gathering implementation information.
  - I intend to present ONTAP information in January.
- Should have enough info to decide on approach to fix the two-model issue looking to publish -08 with this fix in place.

# Looking Forward

## Slide Two of Two

- Once, -08 is out, will focus on addressing the consensus issues that remain unresolved.
  - Should use the working group list and interim meeting as necessary.
  - Will alternate the focus between items that relate to original goals and underspecification, as necessary.
- Expect new drafts approximately monthly.
- Given experience with earlier document, need to think seriously about a final review process.