

Oct 1, 2026

UNTP Technical WG

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Attachments  UNTP Technical WG  Notes - UNTP Technical WG

Summary

Storage challenges and persistent identifiers with zero-knowledge proof strategies and version one merge requests.

Durable Storage And Identifiers

Public review addressed durable storage challenges and supply chain vulnerabilities. Version one will provide non-normative guidance.

Evidence And Merge Requests

Zero-knowledge proofs mitigated long-term storage burdens. A merge request will frame the durable storage problem.

Render Methods And Alignment

Render methods will not be completed for version one. Universal Trust Network approach serves as a viable implementation.

Decisions

Aligned

- **Non-normative guidance for version one** The group agreed to include only non-normative guidance for durable credential storage in version one.
- **Drafting merge request for public review** Harley will draft a merge request addressing current public review comments for the version one deadline, allowing others to comment afterward.

Next steps

- ☐ [Harley Thomas] Fix Calendar Invites: Correct the calendar invite series for meeting participants to ensure it appears on their calendars.
- ☐ [Harley Thomas] Forward Email: Forward the relevant email thread discussing durable storage to Albert for context.
- ☐ [Harley Thomas] Create Merge Request: Create a merge request that addresses the public review comments for version 1.
- ☐ [Albert Verdeny] Review Tickets: Review the tickets related to durable storage to provide input and follow up on the discussion.
- ☐ [Harley Thomas] Email Phil: Send an email to Phil regarding the alignment of render methods with W3C guidance.
- ☐ [Phil Archer] Backup Key: Create a backup of the private key used for GS1 credentials.

Details

- **Public Review and Durable Storage Challenges:** Harley Thomas stated that they are trying to close out the public review with 34 issues remaining, highlighting a major emphasis on the durable storage of credentials. The

discussion addressed scenarios where a publisher goes out of business after issuing a Digital Product Passport, raising questions about Decentralized Identifier methods, bit strings, and long-term storage when credentials are validated upon receipt but later revoked. Steve initiated an email thread on the W3C credentials list concerning the historical status of credentials, reflecting the broader community's engagement with these challenges.

- **Non-Normative Guidance for Version One Storage:** Harley Thomas noted that the W3C community lacks a standardized technical solution for durable storage, leading to the agreement that version one will provide non-normative guidance rather than a strict mandate. Albert Verdeny proposed that supply chain actors should implement data redundancy by creating and storing their own copies of supplier data instead of relying solely on the publisher. Harley Thomas discussed the challenge of maintaining snapshots of Verifiable Credentials and Decentralized Identifiers when upstream producers, such as an Australian cotton farm, go out of business. Phil Archer and Albert Verdeny emphasized that any technical infrastructure relies on computers that can be switched off, making redundancy a practical necessity.
- **Decentralized Identifier Persistence and Supply Chain Vulnerabilities:** Phil Archer explained that while multiple copies of Verifiable Credentials can be stored across various locations like websites or USB drives, resolving Decentralized Identifiers using Web Decentralized Identifiers fails if the domain disappears. Phil Archer suggested that companies maintain dedicated websites per brand so online data remains a transferable asset during acquisitions or sales, enabling Web Decentralized Identifiers to continue functioning. However, Albert Verdeny and Harley Thomas highlighted that companies can still go bankrupt and disappear, and upstream producers like raw material farmers lack obligations for long-term storage, leaving economic operators vulnerable if public keys cannot be resolved.
- **GS1 Identifiers as Persistent Solutions:** Phil Archer described keeping a physical USB stick as a backup for issuing Verifiable Credentials for GS1. Albert Verdeny and Phil Archer discussed that GS1 identifiers remain persistent even if a company goes bankrupt, because GS1 licenses blocks of numbers maintained in a central database and multiple member organization formats worldwide. Phil Archer noted that if GS1 ceased to exist, the industry actors in whose interests it operates would be responsible for rescuing the data.

- Evidence Presentation, Forgery Defense, and Zero-Knowledge Proofs:** Harley Thomas raised an issue regarding defining a standard way to present collected evidence and graph traversal data consistently. Phil Archer noted an in-flight working group standard addressing forgery defense, pointing out that by 2029 Google predicts computers will be able to derive private keys from public keys, allowing signatures to be forged. To mitigate long-term storage burdens, Albert Verdeny and Phil Archer discussed alternative options such as storing execution queries and results or using zero-knowledge proofs to verify that checks were performed on a specific date without needing to store all raw supplier data.
- Merge Request Planning for Durable Storage:** Harley Thomas shared ticket 735 concerning open issues related to durable storage. Harley Thomas proposed crafting a merge request that frames the durable storage problem around two perspectives: strategies for publishers who go out of business, and strategies for receivers who must maintain long-term records. After discussion with Albert Verdeny and Phil Archer, Harley Thomas decided to create the merge request addressing public review comments within the next week or two, allowing team members to chime in while leaving broader long-term preservation challenges for future work.
- World Wide Web Consortium Render Methods Status for Version One:** Phil Archer provided an update on World Wide Web Consortium work on render methods, noting that the task force led by Dimitri is still actively discussing foundational issues in draft form. Phil Archer explained that contentions around supporting Scalable Vector Graphics, secure runtime environments for HTML and CSS, and wallet card specifications mean render methods will not be completed in time for version one, preventing the Universal Trust Network from pointing to them normatively.
- Electronic Product Code Information Services Event Wrappers and GS1 Alignment:** Albert Verdeny brought up that the Universal Trust Network uses Verifiable Credentials wrapping Electronic Product Code Information Services event lists, and noted discussions with Ralph Duga and Sven Bookman from GS1 regarding potential GS1 plans to wrap events in Verifiable Credentials. Phil Archer recalled attending an Electronic Product Code Information Services working group face-to-face meeting in April where they informed the group—co-chaired by Sven Bookman—that creating specific Verifiable Credential applications for Electronic Product Code Information Services is up

to the experts rather than World Wide Web Consortium or GS1 central bodies, confirming that the Universal Trust Network approach serves as a viable implementation.

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