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UNTP Technical WG

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Attachments UNTP Technical WG Notes - UNTP Technical WG

Summary

Harley Thomas, Phil Archer, and Bas van der Pol discussed solutions for updating the Digital Product Passport (DPP) with post-sale data, specifically focusing on how to capture digital traceability events like repairs years after a product is sold, with Adrienna Zsakay later joining the discussion on the EU registry's role. They agreed on an architectural consensus where the original DPP remains immutable, and future traceability events should be appended as new links to the product's identifier through the identity resolver, which is supported by Phil Archer, who compared it to Carfax. Bas van der Pol detailed the challenge of multiple stakeholders needing to update the DPP, and the group discussed the need for decentralized access control mechanisms to prove authentication and authorization for adding new links to the identity resolver, which Harley Thomas will use to draft a pull request for review before the next meeting.

Details

- **Meeting Overview and Logistics** Harley Thomas initiated the meeting by greeting Phil Archer and Bas van der Pol, acknowledging their participation in the volunteer work despite their busy schedules. Phil Archer noted their calendar was full of meetings with similar groups, while Bas van der Pol shared that they had faced significant morning traffic. Harley Thomas mentioned the challenges of scheduling meetings in the EU while being based in Australia, which led to a

discussion of Phil Archer's colleagues in Melbourne who work late hours to accommodate EU time zones.

- **Agenda and Topic Introduction** Harley Thomas apologized for not sending an agenda and outlined the discussion points: briefly closing out a couple of existing issues, discussing issues related to domain name sovereignty and link type management that Phil Archer had created, and introducing the major topic of post-sale data addition to the Digital Product Passport (DPP). Harley Thomas specifically sought solutions for how to update the DPP or identity resolver to capture digital traceability events, such as a repair event, years after a product is on the market.
- **Post-Sale Data Addition and Proof of Ownership** Phil Archer mentioned Steve's idea of the product owner taking possession of a crypto key to prove ownership, acknowledging the technological concept but questioning its practicality for the average user. Harley Thomas clarified that this issue is distinct from a scenario where a manufacturer goes out of business. Phil Archer also shared an idea from a contact in Southern California about tying a point-of-sale receipt to a verifiable credential (VC) as proof of ownership, which could secure the transfer of ownership of a physical item and potentially grant the right to update the DPP.
- **Stakeholders and DPP Update Challenges** Bas van der Pol detailed the challenges encountered in a project with GS1 Netherlands and Phillips, highlighting that various stakeholders, including authorized repair providers, big retailers, non-authorized repair centers, and consumers, might all want to update a product's DPP. Bas van der Pol noted that everyone is hoping that Verified Credentials (VCs) and UNP will provide a solution to this complexity. Harley Thomas raised the further question of whether the actual DPP is being updated, suggesting that since a new traceability event would be linked within the DPP's payload (a VC), it would necessitate reissuing the VC, and questioned what happens to the original DPP in that scenario.
- **Proposed Solution: Identity Resolver Links Instead of DPP Updates** Harley Thomas proposed that instead of updating the DPP, a new link set could be added to the product's identifier through the identity resolver, capturing the digital traceability event while leaving the original DPP untouched. Bas van der Pol clarified this as adding layers or versions to the original passport without modifying it, which would allow the application layer to display the updates. Phil Archer supported this approach, likening it to how Carfax maintains the history of a vehicle using the Vehicle Identification Number (VIN).

- **Technical Implementation of Link Trees and Application Layer** Bas van der Pol questioned how a DPP solution provider would decide what external information, submitted by various parties, to include in the passport if everyone can add links. Harley Thomas reiterated that the addition should be a link appended to the identity resolver's link set, not an update to the DPP. Phil Archer stressed that since each traceability event is tied to a person or entity via a VC, the consumer or regulator can decide whether they trust the source of the information.
- **Burden on the Query and Identity Resolver Role** Harley Thomas expressed concern that this approach creates a greater burden on the query process, as a user would need to look in two separate locations—the DPP and the identity resolver—to get a complete set of traceability events. Phil Archer countered that they view the link to the DPP as one link within a set of links, suggesting that this does not significantly increase the burden. Bas van der Pol emphasized that the identity resolver and resulting link tree should be the agreed-upon standard, with the application layer handling the interpretation and visual presentation of all linked information.
- **Impact on the DPP Render Method** Harley Thomas noted that if post-repair events are only in the identity resolver and not the DPP, the DPP's render method (which provides a human-readable version of the VC) would break, as it would not show all relevant traceability events. Phil Archer pointed out the distinction between encoding an entire VC in a QR code (using a render method) and scanning a product identifier that directs to an identity resolver, which then provides multiple links to VCs. They concluded that the render method comes into play after going through the link resolver.
- **Decentralized Access Control and Identity Resolver Authority** The conversation shifted to decentralized access control, specifically the issue of proving authorization to update a link in the identity resolver, which is distinct from where the DPP itself is stored. Harley Thomas proposed that if an identifier is registry-managed (like GS1), the repairer would need to prove their identity and authorization to the registry operator to add a repair event link. Phil Archer confirmed this challenge, suggesting that GS1 only worries about the entity that licensed the block of numbers, meaning a third-party repairer would likely need to register their link through a secondary identity resolver managed by a solution provider (like Bas van der Pol's company).
- **EU Registry Discussion** Phil Archer asked Adrienna Zsakay about the role of the EU registry in this context. Adrienna Zsakay stated that the registry is likely

intended to be a record of every registered DPP, which presents massive computing challenges due to the estimated 10 billion DPPs registered annually and the need to manage them over time. Harley Thomas clarified their understanding that the EU registry is primarily an identity resolver, holding links to where the DPP is hosted by a solution provider, rather than holding the entire data of all 10 billion DPPs.

- **Registry Functionality and Stakeholder Access** Adrienna Zsakay explained that the ESPR outlines three stakeholder groups (consumers, authorities, and circular performance actors), each needing access to different information, and questioned how market surveillance and customs authorities would gain access to the required data if not through the registry. Phil Archer reiterated that the registry's function is only to provide links to the data, and access control is enforced at the data manager's end.
- **EU Registry vs. Product Identity** Bas van der Pol sought clarification on whether the EU registry registers the product identity or the initial DPP. Phil Archer clarified that the registry registers product identifiers. Bas van der Pol noted that the product identity, when resolved, could lead to multiple events (manufacturing DPP, repair events, resale events), with the manufacturing DPP being the most original link.
- **Trust and Non-Authorized Repairers** The group discussed the scenario where Bas van der Pol's company, as a DPP solution provider, receives repair information from non-authorized repair centers (like a repair cafe) for a client like Phillips. Bas van der Pol indicated that they would likely accept all events but emphasized the need to authenticate the source to prevent spam and for the client (Phillips) to trust the log, aligning with Steve's idea of a key within the product itself to prove access.
- **Architectural Agreement and Next Steps** Harley Thomas summarized the architectural consensus: the DPP should remain immutable, and future traceability events should be appended as links to the link set at the identity resolver. They agreed that guidance is needed on decentralized access control mechanisms for proving authentication and authorization for adding these links. Harley Thomas confirmed that they would draft a pull request based on this discussion for review before the next meeting.
- **DPP Service Provider Certification** Adrienna Zsakay questioned if Bas van der Pol's company would need to register as a certified DPP service provider with the

EU registry. Bas van der Pol confirmed their understanding that a certification program for "European DPP service providers" is being set up under Serpass to ensure commercial parties do not alter data in the original passport. Harley Thomas noted that this certification process is effectively the same access control mechanism problem—proving permission to add a new link to a centrally managed identity resolver (the EU registry).

Suggested next steps

- [ ] Harley Thomas will put together a draft merge request for the discussion before the next meeting and bounce it off Steve and Zach and other heavy contributors to the UNP.
- [ ] Harley Thomas will write the discussion points on the GitLab issue.
- [ ] Harley Thomas will message Steve about the UNP call.