EFWG 2022-07-21 Meeting - Digital Catapult

Meeting Schedule

- Bi-Weekly at 8:00-9:00 am PST / 11:00-12:00 am EDT / 15:00 – 16:00 UTC / 17:00 - 18:00 CET
- https://zoom.us/j/95389236256?pwd=RFErMm9SS0tBenA1Q0dSYlpXK3Bqdz09

Attendees

- Steve Magennis
- Carly Huitema
- Eric Drury
- P A Subrahmanyam
- Phil Wolff
- Keerthi Thomas
- Steven Milstein
- Nicky Hickman
- John Kirby

Presentation Files

- Google slides
- Keerthi Thomas presentation

Recording

- Meeting Recording

Notes

Agenda Items & Meeting Notes

- Welcome & Introductions
- EFWG Community Topics & Announcements
  - Carly:
    - Use case resources on ToIP EFWG google drive https://drive.google.com/drive/folders/1bvf-WFoj-8-Ih-IRtJr7RqBbZDCBnsuN
    - Use case candidates are first https://docs.google.com/document/d/1nYZ2ZgoJQIuJk-om8XFQ64btHwDGlwdoMGjbNqfqAEM/edit
    - Working sessions August 4 and 18.
  - Ecosystem white paper. Comments end this week. Steering committee in August.
    - Ecosystem whitepaper and associated presentation links:
    - https://docs.google.com/document/d/11GzIlKRsBZxsABbOvcGYOJy0UQTyn0J5MvRAQbaCu2I/edit?usp=sharing
    - https://docs.google.com/presentation/d/1pxYASep3pMZ9NOUoBbpAAeCzubkcUlyYmqI089qMzPI/edit?usp=sharing

  -
    - Steve M's video about his use case matrix https://www.youtube.com/watch?v=WaImLVGucaI
  - Governance Architecture Task Force - 7 September.

Presentation: Drone Pilot Credentialing for Air Safety

Keerthi works with the UK's Digital Catapult research ngo organization.
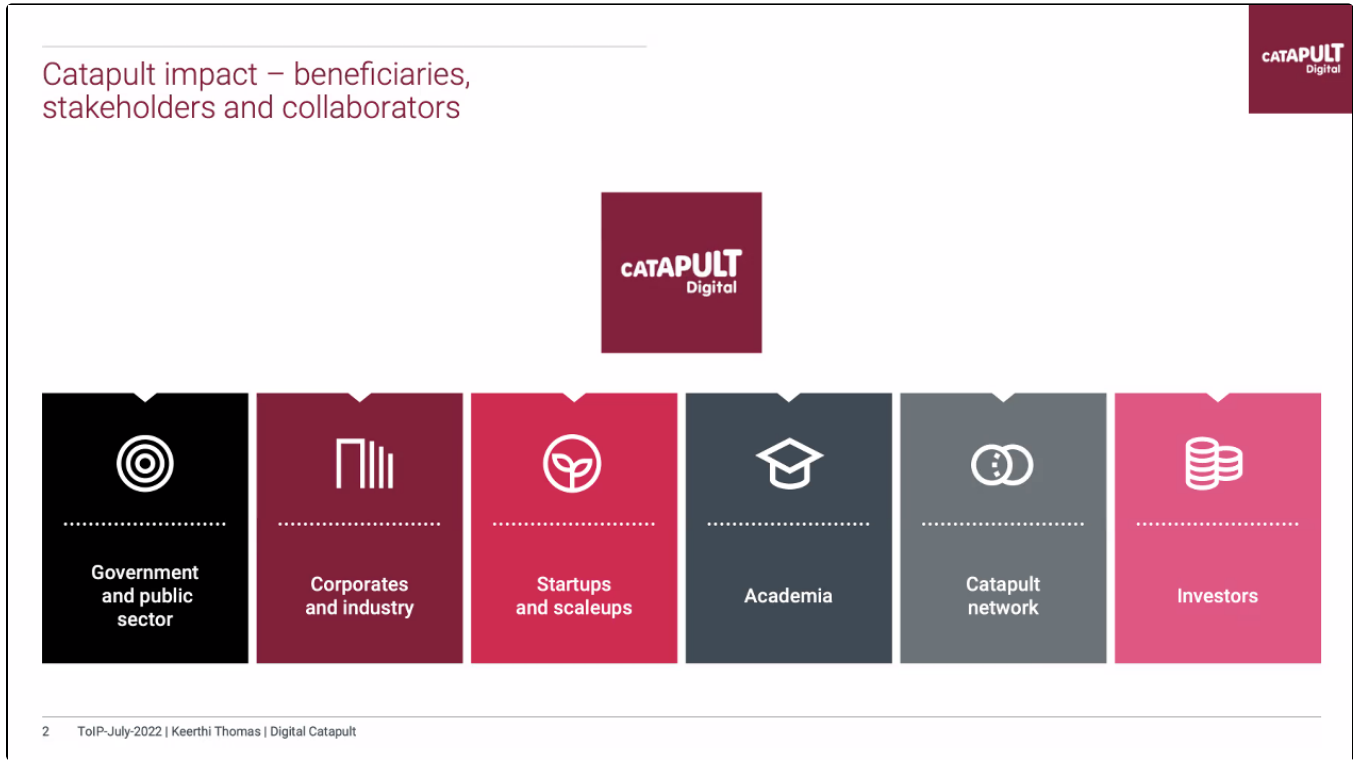
He focuses on SSI.

The Fly2plan Project

- £4.5m under UK's Future Flight Challenge
- 15-month project led by Heathrow
- Aim: cost savings in the aviation industry through data sharing

ROCKPORT SOFTWARE

Heathrow

NATS

ibssoftware

CONSORTIQ

UNIVERSITY OF OXFORD

TEK TOWR

CIRIUM

Cranfield University

ALTITUDE ANGEL

SITA

Challenge: Regulating Drones for Air Safety

- A critical e-Government issue is the ability to fly drones in regulated airspace around airports.

- Drones are used in maintenance activities such as detecting debris on the runway or detecting if the pilot lights on the runway are working

- Unauthorised drone operations in the flightpath of passenger aircraft can endanger lives and cause huge financial loss for airport operators.

2030

£10BN /YEAR
EU ECONOMY

76,000
DRONES (UK)

628,000
JOBS (UK)

How do drones and human flight get along in and around airports?

License drone pilots...

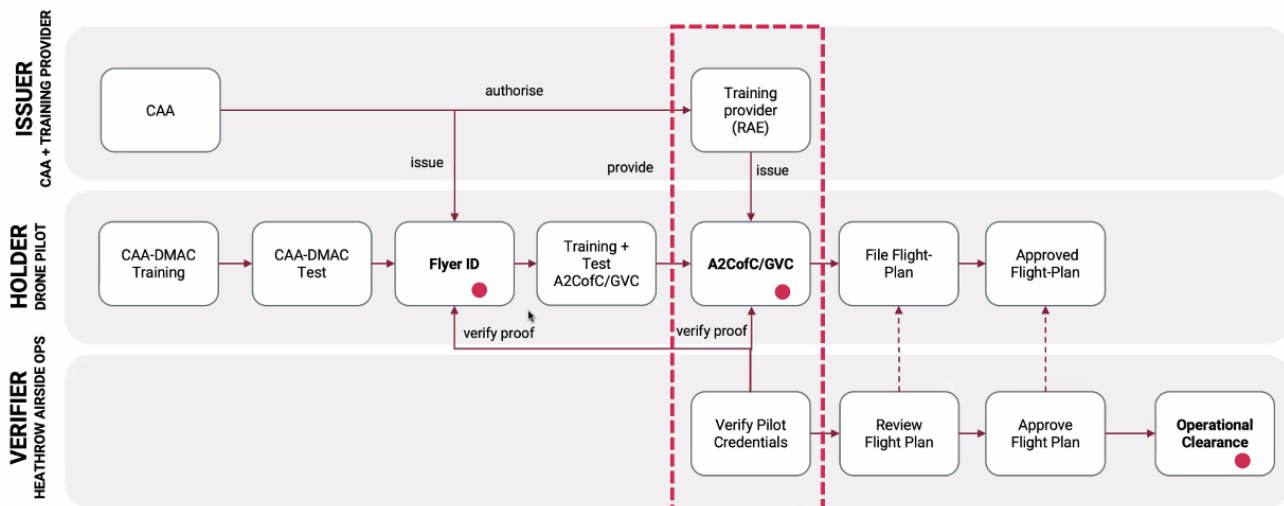All the processes are manual and very slow, about a month. And each of the pilot training companies had their own records system.

The pilot needs a certificate like this...

issued by the UK CAA, who authorizes training providers to issue them.

PoC - SSI Architecture

Public DIDs:
Authority: *CAA*
Training Provider: *Consortiq*

Schemas:
FlyerId, A2CoC, RAE Authorisation

Verifiable Credentials:
FlyerId, A2CoC, RAE Authorisation

Proof presentation:
A2CoC, RAE Authorisation |➔ *Heathrow*

Agents/Nodes (Cloud based)
CAA, Consortiq, Drone-pilot, Heathrow

Identity Registry
VON/Indy

CoC is a certificate of competence. The PoC was web/cloud-only.

VERITABLE – SSI Platform

- Based on Hyperledger Aries / Indy

- Service Modularisation

- Better dependency management

- Automated tests and builds to enable continuous integration

- Continuous delivery

- Demo available on request

- Open source repository: github.com/digicatapult?q=veritable
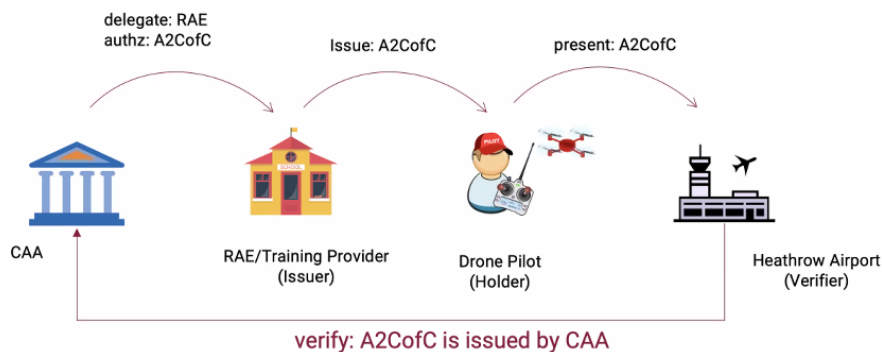
A chained credential challenge: for the airport to be able to verify not just that the pilot was credentialed but that the training provider was authorized by the CAA
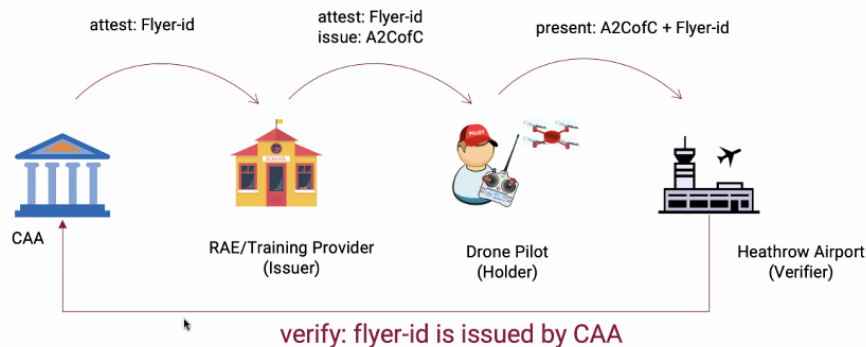
"Proof of Value" (PoC in live setting) was stalled.

Requirements for Chaining Credentials

- Reduce connecting to multiple parties to verify provenance

- Verification of credentials lower in the chain should fail when credentials higher up the chain are revoked e.g., Authority revokes a Flyer-id or RAE delegation credential, verification fails at Verifier.

- Revocation and verification with near real-time latency

- RAE delegation must be *transparent*

- Flyer-id needs privacy protection, like other personal identifiers

For more details on chained credentials see *Aries RFC 0104: Chained Credentials*

What do you do with a trust anchor like the CAA that may be disinterested for political or budgetary reasons?

Governance

- CAA is expected to take on the role of trust anchor

- Businesses want SLAs for access to identity registry (blockchain component)

- Prefer a identity ledger specific to aviation sector, e.g. based existing rules and protocols of ICAO or IATA (but this could fragment existing solutions)

Who takes ownership of keeping the whole thing up and running, especially in a decentralized system?

Thank you

Please send your questions to:
keerthi.thomas@digicatapult.org.uk

- Q&A
  - Nicky Hickman > I wonder how ID of the drone itself was included and the relationships between the drone and the pilot ?
  - Carly Huitema > this chain looks like what GLEIF is addressing
  - "Subra" (P. A. Subrahmanyam) > The chaining would be something that KERI/ACDC can address?
  - Steven Milstein > You can look at https://www.gleif.org/en/vlei/introducing-the-verifiable-lei-vlei for a description of how GLEIF uses Trust Chain (KERI/ACDC)
  - CAA is concerned with the quality of non-malicious pilots (malicious ones wouldn't file flight plans).
  - Phil > How to get it out of PoC purgatory? the Agency is the one going slow; the other parties see immediate value.
  - Nicky Hickman > revalidation cycle
  - Steven Milstein > Is it not a "Problem Worth Solving" for CAA? Maybe they are not the Customer?
  - sankarshan > @Steven - perhaps fuzziness around economic model to sustain this given the volume of credentials issued (and forged?)
  - Nicky Hickman > maybe because as in all decentralized ecosystems - the problem is not wholly owned by them, so they don't see why they should fund it, maybe this is inherent barrier to adoption across ecosystems?
  - Phil > Does validating a sustainable business model need to be part of the technical PoC?
  - Steven Milstein > @Phil, I think so
  - Nicky Hickman > there are also policy moves on the part of the UK Gov to create a stronger need for this https://www.suasnews.com/2022/07/uk-government-gives-the-green-light-for-worlds-longest-drone-superhighway/
  - Steven Milstein > If it's a problem worth solving, then it should be a matter of Who's the Customer?
  - sankarshan > Or, how the value is exchanged in the workflow
  - Nicky Hickman > I see there are multiple customers
  - Steven Milstein > The the ecosystem is the customer
  - Nicky Hickman > yes +1 @sankarshan - the map of incentives
  - Carly Huitema > with multiple customers you may get the case of pass the buck
  - Nicky Hickman > where is the ecosystem's budget?
  - sankarshan > The ecosystem cannot be a customer or consumer. It is merely a representation (construct) of the network of stakeholders with a map of their interactions
  - Phil > Form a consortium that everyone pays into to fund the system from the private sector?
  - Carly Huitema > would the home for that be in the ecosystem's governance authority (which should contain memberships drawn from ecosystem membership?) the ecosystem's governance
  *that = budget
  - Steven Milstein > An ecosystem can be the customer if it's solving a problem for them - like maybe the drone pilots. it could be a consortium.
  - Nicky Hickman > yes - a good example is what Bonifii did as a Credit Union Service Organisation for the CU industry with Memberpass
  - sankarshan > A consortium is a legal entity - an ecosystem is a theoretical construct.
  - Carly Huitema > the consortium would be the governance authority
  - Steven Milstein > Who's benefiting from the solution? What problem is being solved for who?
  - Carly Huitema > or would form the GA
  - sankarshan > GA = legal entity
  - Nicky Hickman > Tykn also have a use case around drones in Thailand for agritech & tourism use cases - SSI is a great application w/drones it plays to the strengths around ID of orgs, people & things
  - Carly Huitema > During the talk there was discussion about chaining credentials to the source and the suggestion was to check out GLEIF: https://www.gleif.org/en/vlei/introducing-the-verifiable-lei-vlei
  - Nicky Hickman > it all comes back to the HX of employees

- sankarshan > The missing sponsor/stakeholder would indicate a cold start issue.
- From Steven Milstein > Why not offer a managed service?
- sankarshan > This recording is going to be epic! @Steven - as in a hosted, plug-n-play for the stakeholders to get started with? Instead of a build/own approach?
- Nicky Hickman > yes - abstract the complexity but IMO needs to be a cooperative model that aims at value and safety for all members, that's why the CUSO model is appealing - there are also DAO options in terms of governance
- Steven Milstein > @sankarshan Yes. Subscription membership
  Many players to subscribe
- sankarshan > oh! about the DAO way - I am a bit circumspect if that would be very agreeable. Government businesses seem to have some tetchy feelings around DAOs
  @Steven - it is an interesting proposal. Might actually work
- Steven Milstein > IMO, DAO is not there yet
- Nicky Hickman > for sure - could blend DAO with Multi-stakeholder cooperative models to balance rights / responsibilities of different stakeholder groups
- Steven Milstein > @Nicky +1
- sankarshan > we have the pull quote for this
- Carly Huitema > summary idea - decentralized solutions are 80% business process and 20% technology
- Steven Milstein > It's not about the technology. It's about the opportunity. You can have decentralized governance
- Nicky Hickman > take-out 2 - the driver is HX of on-the ground participants that most clearly demonstrates value and drives urgency for adoption
- Nicky Hickman > take-out 3 catherders - ecosystem orchestrators are a fundamental indicator of ecosystem viability

Discussion...

- ...
- ...

Admin Reminder : remember to re-subscribe to new meeting calendar

If you want your name on the invite, reach out to Elisa Trevino (on slack), she will put your name in the calendar invite to make sure that the invite is sent out each time.

Coming up

- August hiatus ...
- ... and yet - Use Case work!