Implementing Digital Emblems on top of the DNS/DNSSEC protocol stack

HotRFC
IETF 120
Vancouver
18:00 - 20:00 PDT
Sunday, July 21, 2024

Bill Woodcock
Packet Clearing House
An **Issuer** creates **digital emblems** and cryptographically **signs** them.

**Digital emblems** are bound to **assets** or asset classes by **descriptions**.

**Validators** evaluate the digital **signature** which relates the **issuer** to the **digital emblem**, and the **description** which **binds** the **digital emblem** to the **asset**.
Standardized digital emblem data elements*:

**Issuer**
- Visual representation
- Identification of law
- Contact information
- Handling flags
- Issuer’s signature
- Third-party signatures

**Asset**
- Temporal scope of validity
- Spatial scope of validity
- SI base unit of size or weight
- WCO standardized quantity
- ISO 4217 currency code
- Names and serial numbers
- Distinguishing marks
- External references

**Distribution**
- Data at rest
- Data in flight
- In-band network response
- Passive RF transponder
- Active RF transponder
- Active RF Beacon
- Passive optical marking
- Active optical transponder
- Active optical beacon
- Active audio transponder
- Active audio beacon

**Validator**

*Not a complete list, but illustrative*
Passive RF transponder: RFID / NFC

Active RF transponder: RFID

Active RF Beacon

Passive optical marking: QRcode

Active optical transponder

Active audio transponder

Data at rest: Zone File format

Data in flight: TLS / DANE

In-band network response: DNS, DoT

Passive RF transponder: RFID / NFC

Active RF transponder: RFID

Active RF Beacon

Passive optical marking: QRcode

Active optical transponder

Active audio transponder

Active audio beacon

* Not a complete list, but illustrative
Thanks!
Want to talk more?
Join us in the DIEM (Digital Emblem) BoF:

09:30 - 11:30 PDT
Wednesday, July 24, 2024
Regency C/D meeting rooms

https://datatracker.ietf.org/meeting/120/materials/agenda-120-diem-01

Bill Woodcock
Packet Clearing House
woody@pch.net