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UTAH DEPARTMENT OF GOVERNMENT OPERATIONS

Division of Technology Services

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Verifiable Digital Credentials

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Verifiable Digital Credentials Report from DTS

63A-16-108. Digital verifiable credential and records has charged DTS with:

- ▷ providing recommendations to government entities regarding verifiable digital credentials
- ▷ creating a pilot program for the implementation of digital verifiable credentials by governmental entities; and
- ▷ reporting to Public Utilities, Energy, and Technology Interim Committee

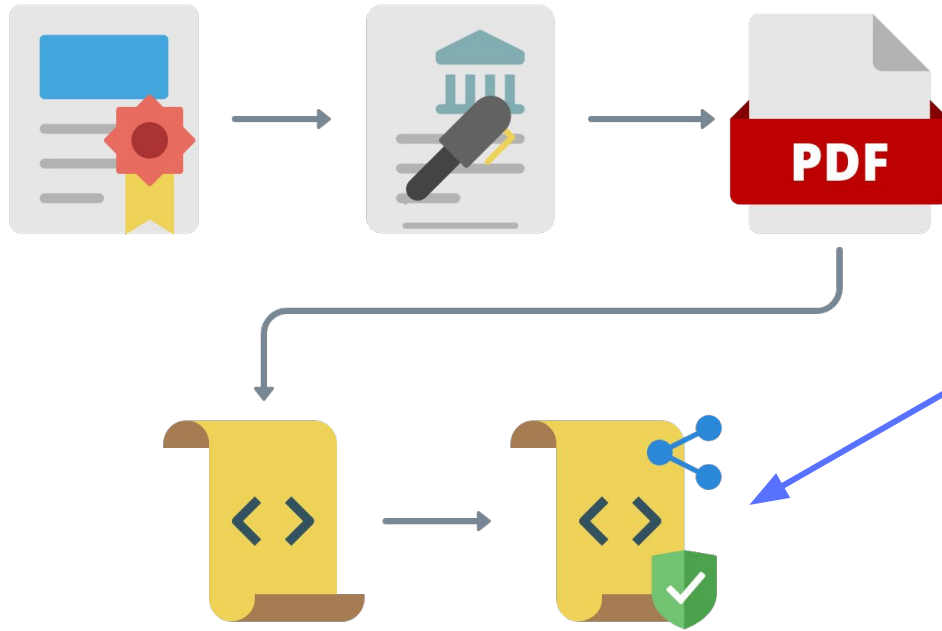


Verifiable Digital Credentials

A verifiable digital credential is a digital document that conveys rights, privileges, and legal enforceability equivalent to the possession of a physical signature, credential, or record of the same type.



The Evolution of Credentials



- Started from wax seals and physical signatures, moving to fully digital signature formats.
- Not all digital formats have the same abilities.
- **Verifiable digital credentials** are *tamper-proof*, and have lineage that can be traced.

Pilot Use Cases

Off-highway vehicle (OHV) education certificates (e.g. ATV, UTV, OH motorcycles)

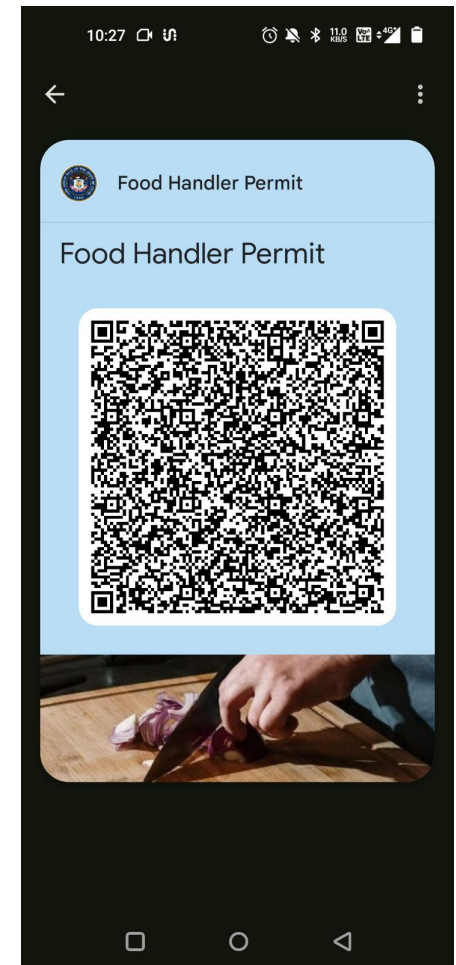
- ▶ Proof of training completion in your Google or Apple wallet
- ▶ 301,129 offers, 43,148 certificates issued (May-September)
- ▶ Verifier app deployed to DNR officers
- ▶ Positively reviewed by [ATV.com](https://www.atv.com)



Pilot Use Cases

Food handler's permit from local health departments (LHD)

- ▶ Certify passing approved food handler training course in Google or Apple wallet
- ▶ Working with 4 LHDs (Salt Lake, Summit, Central, Bear River) representing 11 counties and 16 food establishments
- ▶ Anticipated reduction in returned permits, improved access, and increased compliance



A Variety of Technologies have been Explored

Examples of popular technologies used for verifiable digital credentials (VDCs):

- **W3C Verifiable Credentials and W3C Decentralized Identifiers**
 - OpenBadges V3 (Educational Ecosystem)
 - US DHS Science & Technology (CBP and USCIS)
- **ISO/IEC 18013-5 (mDL) and ISO/IEC 23220-* (mDoc)**
 - US DHS Transportation Security Administration
 - American Association of Motor Vehicle Administrators (AAMVA)
 - NIST - National Cybersecurity Center of Excellence
 - European Digital Identity Wallet
- **IETF: JWT, CWT, SD-JWT, X.509, etc.**
 - WebPKI
 - US Federal Government
 - Enterprise X.509 Systems
 - European Digital Identity Wallet
- **Key Event Receipt Infrastructure (KERI) and Authenticated Chained Data Containers (ACDC)**
 - Global Legal Entity Identifier Foundation (GLEIF)

Rights Preserving Principles

- ▷ User Control and Consent
- ▷ Minimal Disclosure for a Constrained Use (Selective Disclosure)
- ▷ Justifiable Parties–No “phone home” surveillance
- ▷ Directed Identity
- ▷ Pluralism of Operators and Technologies
- ▷ Human Integration
- ▷ Consistent Experience Across Contexts
- ▷ Auditability
- ▷ Address Bias and Access Concerns
- ▷ No elimination of physical options
- ▷ Technical protections, not just procedure



Macro Trends that Motivate the need for Verifiable Digital Credentials

- ▷ Cybercrime
- ▷ Identity fraud
 - Rise of Generative AI Deepfake fraud
- ▷ Digital delivery of government services
- ▷ Need for online identity verification
- ▷ Commercial interests



Cybercrime

SECURITY / POLICY / TECH

LastPass reveals attackers stole password vault data by hacking an employee's home computer

Authentication failure blamed for Change Healthcare ransomware attack

News

Apr 23, 2024 • 5 mins

CISA, FBI warn of social engineering-based ransomware



The Looming Identity Crisis

There were an estimated **\$100B - \$135B in fraudulent unemployment insurance payments** during the pandemic.*

The FTC reported over \$7B in consumer identity-related fraud in 2023, **up 202% since 2020**.

Photo-realistic AI deepfakes will exacerbate identity-related fraud.

**Source: US Government Accountability Office, 2024.
<https://www.gao.gov/products/gao-24-107471>*



Selfie and ID image are both fully AI-generated
(Source for images: Reddit)

Digital Delivery of Government Services



A digital wallet to access your health benefits from proof of insurance, health care records, and proof of immunization



Use your digital ID for all your travel related needs – whether verifying identity at **TSA**, or a trip to the DMV, credentials are managed on your mobile device.



Quickly verify proof of age, without disclosing unnecessary information (e.g. address, weight, full legal name)



Verify licensure to law enforcement in a safer, more efficient method



Securely send your **professional license** and **education credentials**

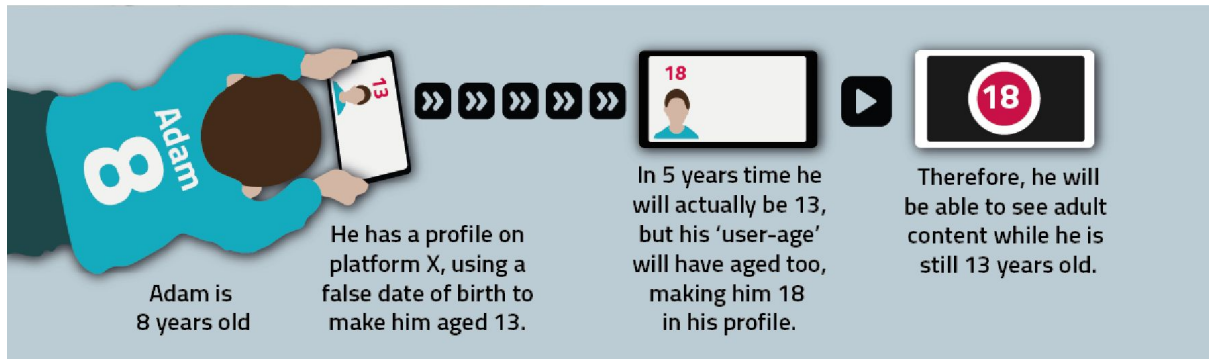


Easily certify other **public benefits** from SNAP, TANF, UI, Section 8, CHIP, Medicaid/care, and more



File your taxes with ease – **simplify tax time**

Online ID Verification



$\frac{1}{3}$ of children ages 8-17 have a false social media age of 18



Commercial Interests

- ▷ Education and training
- ▷ Supply chain management
- ▷ Finance
- ▷ Healthcare
- ▷ Human Resources
- ▷ Loyalty programs
- ▷ Onboarding employees, partners, and customers
- ▷ Verifying service companies' representatives



eIDAS v2.0: EU Digital Identity / Credentials Wallets



[New EU eIDAS Regulation a quantum leap for electronic identity | Cloud Signature Consortium](#)

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