

Multi-credential Verification

The good, the bad, and the ugly

Marie Wallace, IBM Watson Health



Why we need multi-credential verification?

The world is an [interconnected network](#), where people travel across borders, and no country is an island

[Proof of vaccination](#) has historically been used to curb transmission of viruses, e.g., Yellow Fever, and as countries look to reopen their economies, many are considering vaccination checks for COVID-19

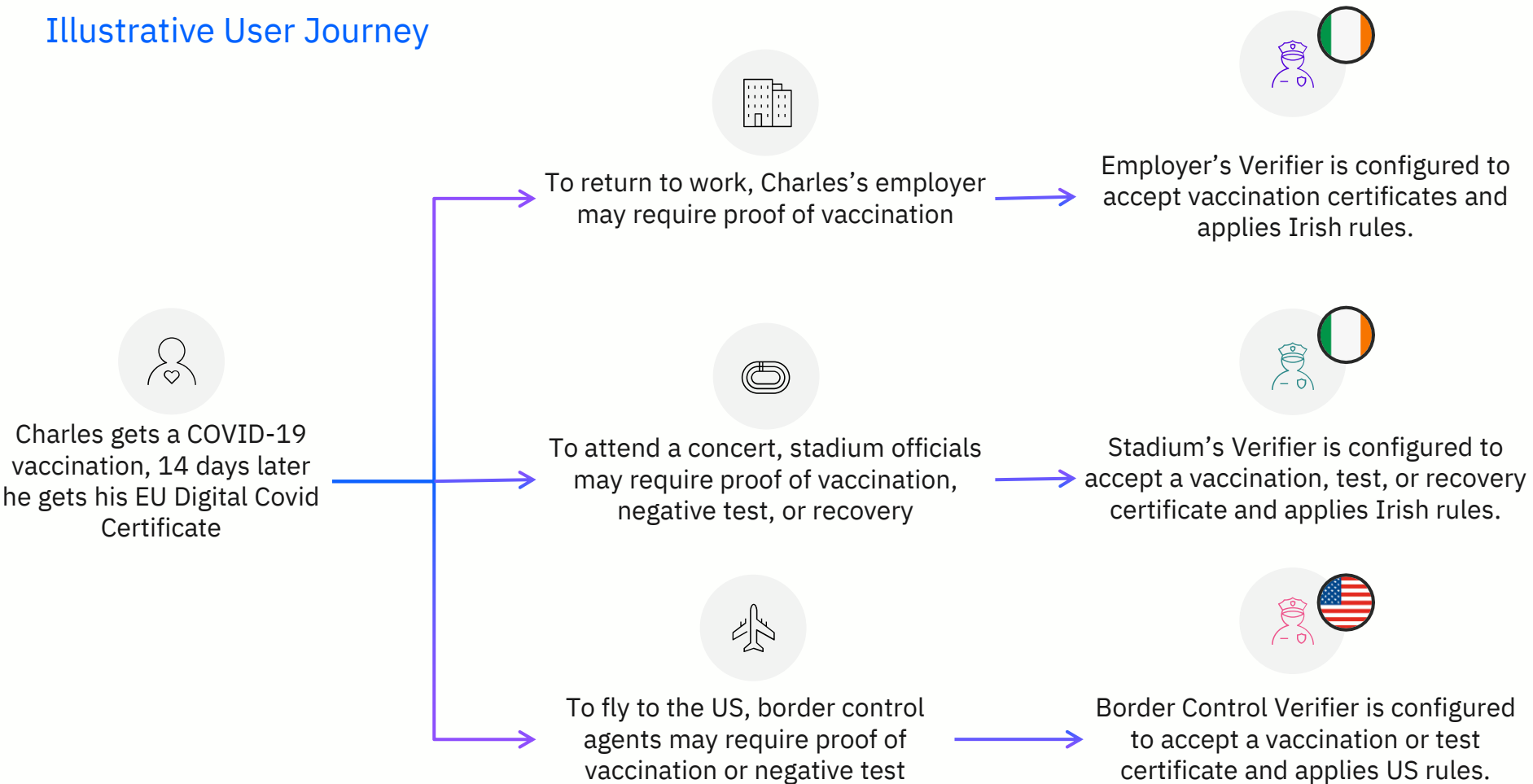
Some jurisdictions may also accept or require alternative proofs, such as [proof of negative test](#) or [proof of recovery](#) for various reasons (e.g., local laws, vaccine distribution or administration disparities)

While [a universal credential may not be likely or realistic](#), and different regions will implement different strategies, schemas, verification protocols, and trust lists, credentials have common elements

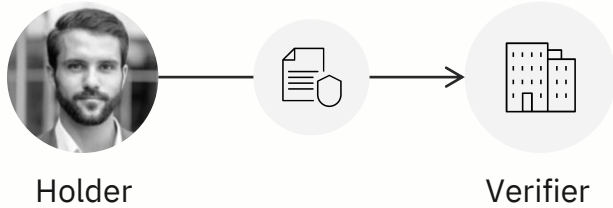
Addressing these global requirements will require a verifier that can [recognize different types of credentials, schemas, coding systems, and verify against different business rules](#)



Illustrative User Journey



What questions does the Verifier need to answer?



- Verifier-specific
- Is this an issuer I “trust”?
 - Is this a credential I accept?
 - Does the credential satisfy my business requirements?
- Credential-specific
- Is this credential provably generated by a known Issuer?
 - Is this credential unaltered by the holder?
 - Was the credential issued to this presenting individual?*

Checking signatures is just one, albeit important, step in the process

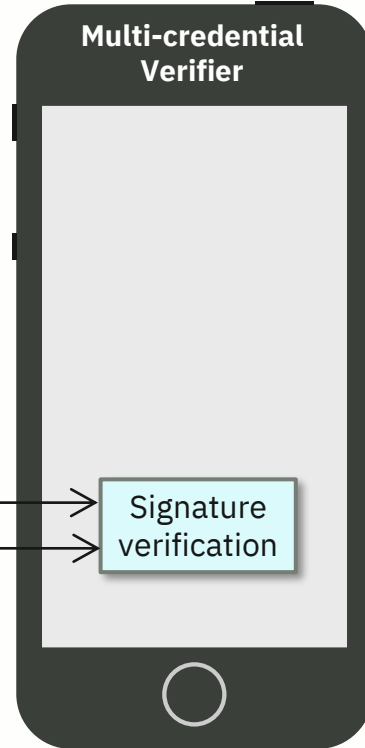


Holder

Verifier

- Verifier-specific
- Is this an issuer I “trust”?
 - Is this a credential I accept?
 - Does the credential satisfy my business requirements?

- Credential-specific
- Is this credential provably generated by a known Issuer?
 - Is this credential unaltered by the holder?
 - Was the credential issued to this presenting individual?*



Next comes the trust network



Holder

Verifier

Verifier-specific

Is this an issuer I “trust”?

Is this a credential I accept?

Does the credential satisfy my business requirements?

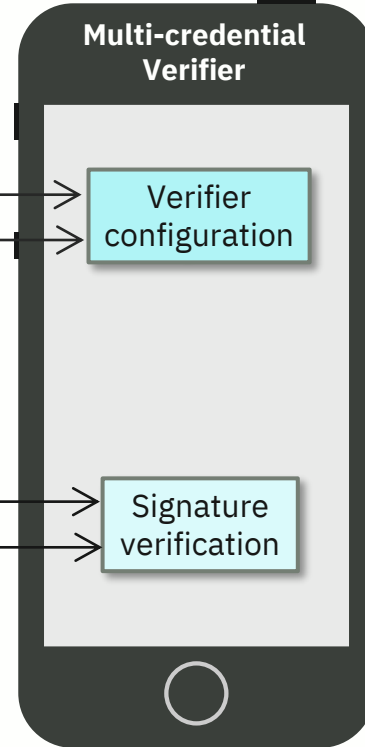
Credential-specific

Is this credential provably generated by a known Issuer?

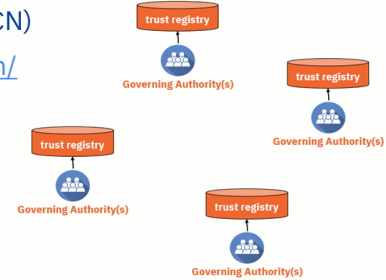
Is this credential unaltered by the holder?

Was the credential issued to this presenting individual?

e.g., Linux Foundation Public Health’s Global Covid Certificate Network (GCCN)
<https://www.lfph.io/2021/06/08/gccn/>



Trust Network(s)



And finally, the rules engine



Holder

Verifier

Verifier-specific

Is this an issuer I “trust”?

Is this a credential I accept?

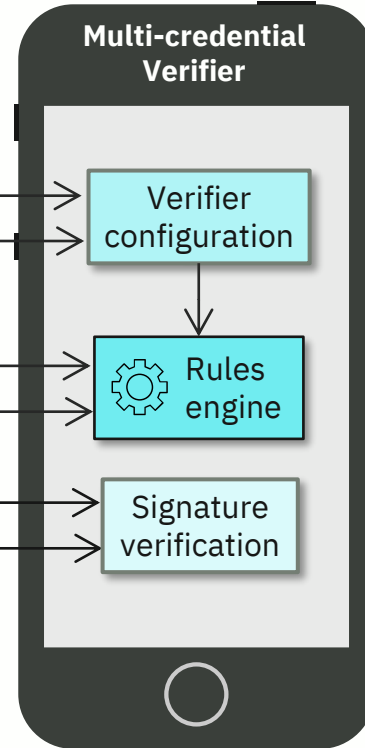
Does the credential satisfy my business requirements?

Is this credential provably generated by a known Issuer?

Is this credential unaltered by the holder?

Was the credential issued to this presenting individual?

e.g., Linux Foundation Public Health’s Global Covid Certificate Network (GCCN)
<https://www.lfph.io/2021/06/08/gccn/>



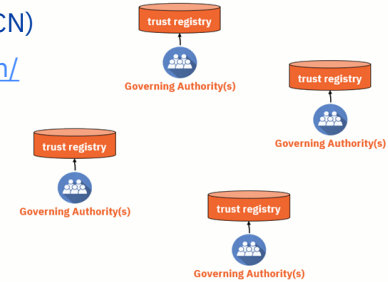
Multi-credential Verifier

Verifier configuration

Rules engine

Signature verification

Trust Network(s)



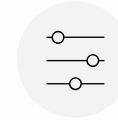
Key characteristics of multi-credential verifier



Accessible to all types of enterprises – small, medium, or large – through a simple, cost-effective, configurable onboarding process



Support different types of credentials, such as Good Health Pass, Smart Health Card, Digital Covid Certificate



Can be customized to the unique needs of different Verifiers across jurisdictions



Support offline and online verification



Help minimize verifier access to personally identifiable data



Allow organizations to design business rules specific to each verifier



Leverages mobile and web-based verifier apps