Presentation: Entity and Object Identifiers

Elements, components and characteristics of a decentralised network

March 23rd, 2020



Paul Knowles

Stem Cell, The Human Colossus Foundation
Chair of the Hyperledger Indy Semantics Working Group

Rocket.Chat: @pknowles



Network



Trusted Immutable

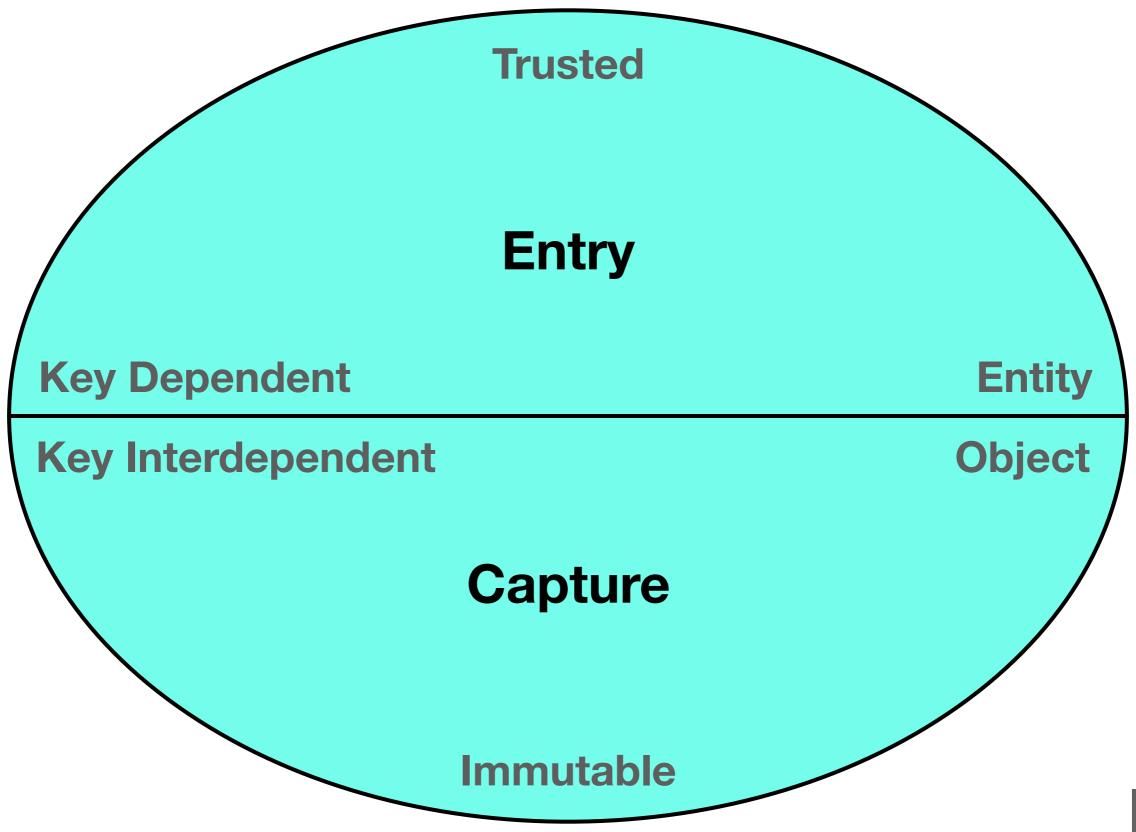


Trusted Entity Object Immutable

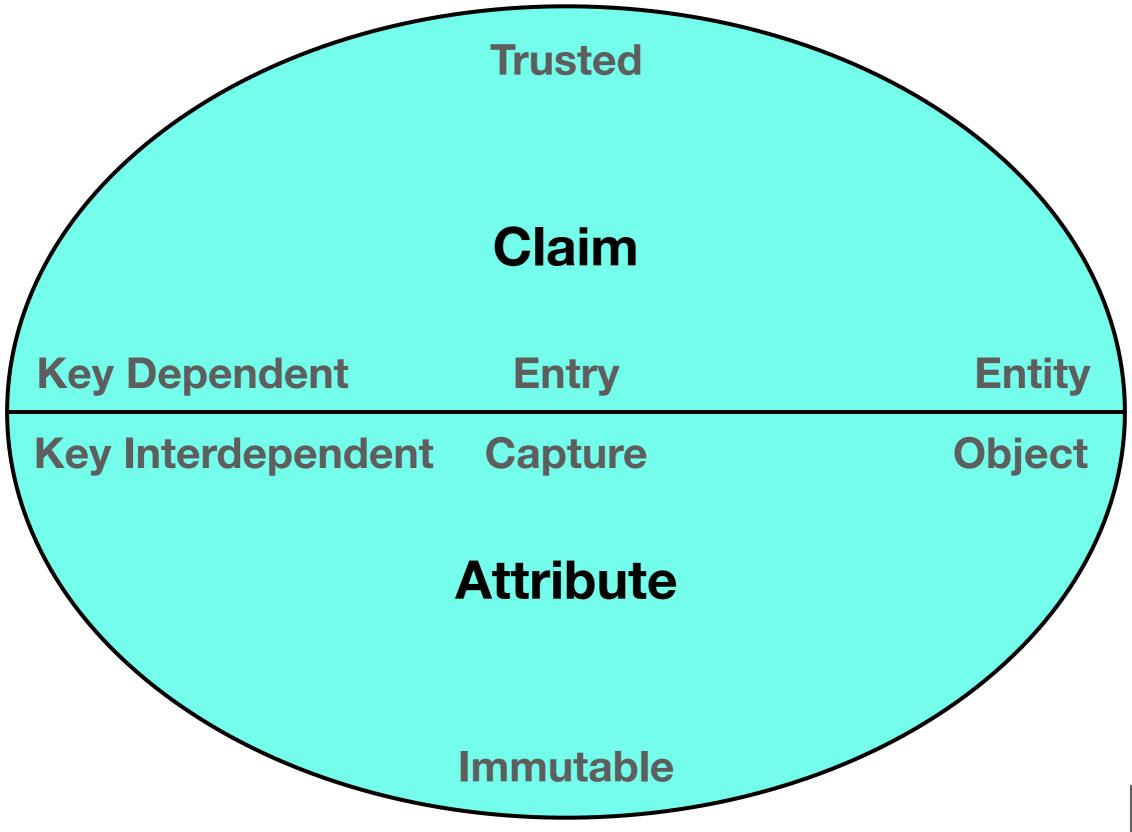


Trusted Key Dependent Entity Object Key Interdependent Immutable

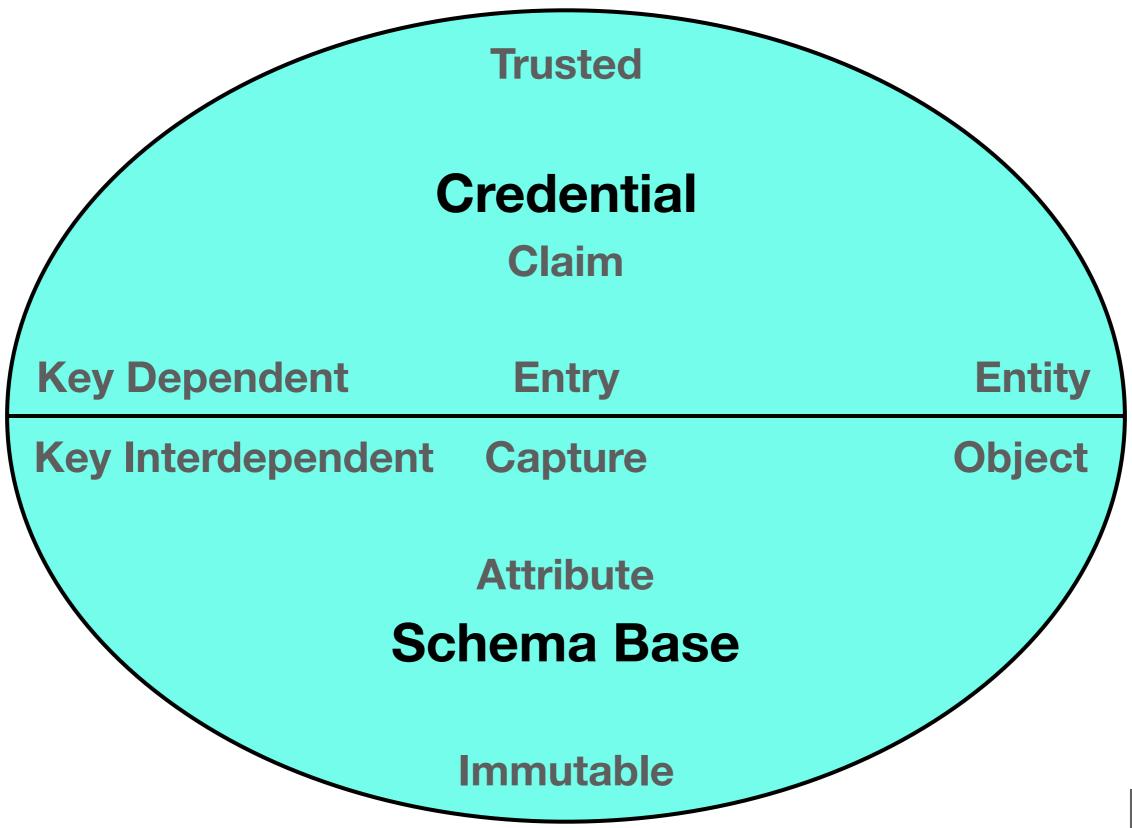














"Key Dependent" vs "Key Interdependent"

A hash grid table describing the different identifier states:

	Key Dependent	Key Interdependent
State		
Trusted	Entity identifiers	Object identifiers that include reference to an entity identifier
	Entity identifiers that include reference to an object identifier (This state cannot exist)	Object identifiers (No entity identifier referenced)

Key Dependent

The identifier is governed by an entity and therefore a signing key is required.

Key Interdependent

The identifier can either be governed by an entity (whereby a signing key is required) or not governed (no keys required).



"Trusted" vs "Immutable"

A hash grid table describing the different identifier states:

	Key Dependent	Key Interdependent
State		
Trusted	Entity identifiers	Object identifiers that include reference to an entity identifier
Immutable	Entity identifiers that include reference to an object identifier (This state cannot exist)	Object identifiers (No entity identifier referenced)

Trusted

The identifier is governed by an entity and therefore a signing key is required to establish trust.

Immutable

The identifier contains a hash of the content of an object which cannot be changed. If an object identifier is governed, the controller of the signing key has control over the content contained within the associated DID-document and, as such, it can no longer be deemed immutable.



"Entity Identifier" vs "Object Identifier"

A hash grid table describing the different identifier states:

	Key Dependent	Key Interdependent
State		
Trusted	Entity identifiers	Object identifiers that include reference to an entity identifier
	Entity identifiers that include reference to an object identifier (This state cannot exist)	Object identifiers (No entity identifier referenced)

Entity Identifier

An identifier that is governed by an entity who controls the signing key.

Object Identifier

An identifier that contains a hash of the content of an object.



Thanks!

Paul Knowles <u>paul.knowles@humancolossus.org</u>

