



Trusted  
Digital  
Web

# TRUSTED DIGITAL WEB

## THE FUTURE OF THE INTERNET AND THE WORLD WIDE WEB

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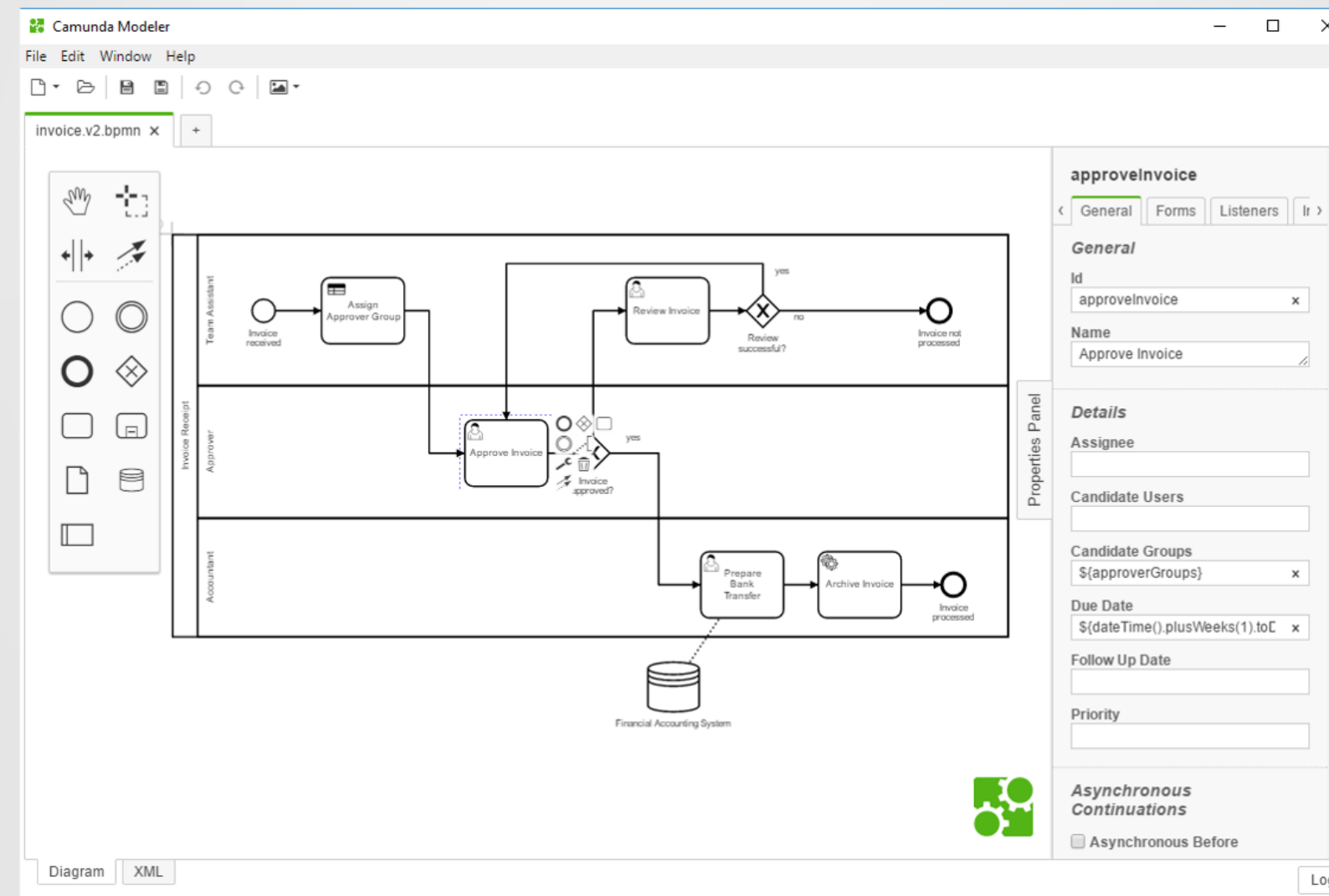
anchville Cattle Company → SW 34-20-2W4

Box 45, Bindloss, Alberta



# WORKFLOWS AND BUSINESS PROCESSES

- Enterprise Architect
- Member of the Microsoft SharePoint product group
- Salesforce.com Solution Developer



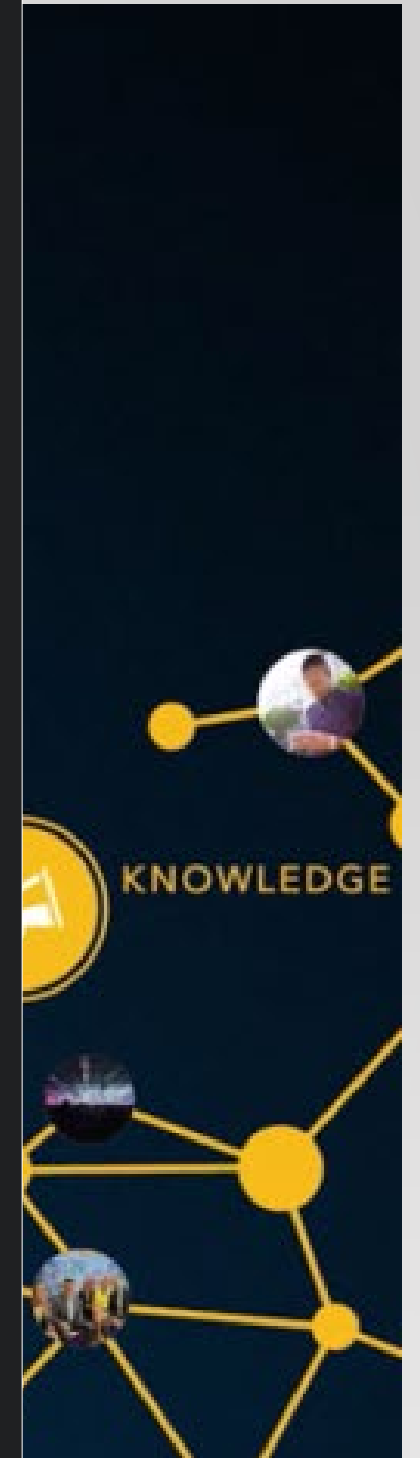


## The Economic Graph



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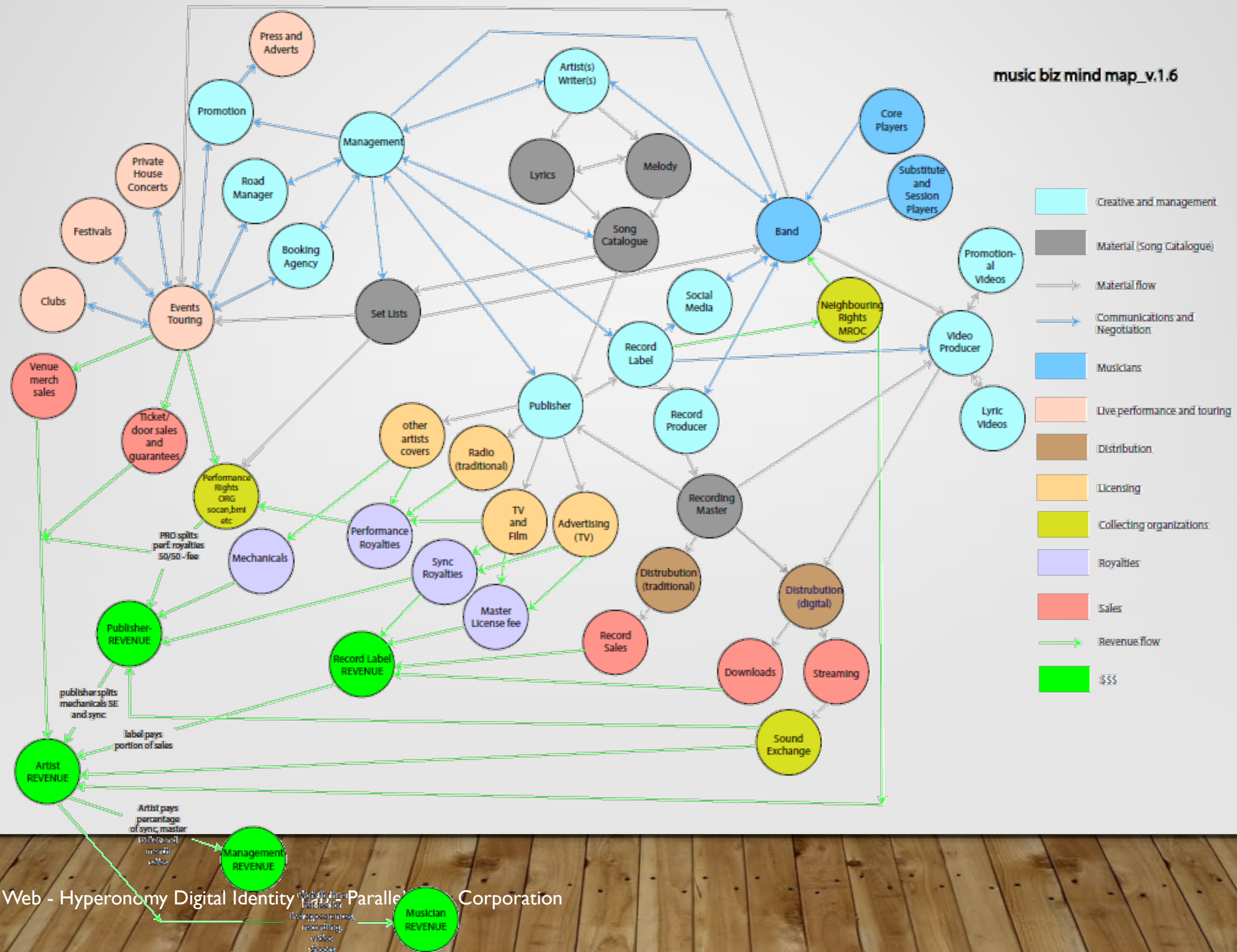
TOKENIZE EVERY LITTLE THING (#ELT)

**TOKENIZE  
EVERY LITTLE THING  
#ELT**

- Blockchain Architect and Developer
  - Ethereum
  - NEO (C# / .NET Core), SerentyData Entity Serialization for the Blockchain
  - Hyperledger Indy (Identity)
  - Stratis Platform (C# / .NET Core)



# DIGITAL IDENTITY NETWORKS (DID NETWORKS)





# AGENDA

- Problems and Motivations
- A Solution Concept
- Final Notes



# PROBLEMS AND MOTIVATIONS

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# THE TRUST PROBLEM

- The Internet global communications network and the World Wide Web (WWW) software application is the fabric that knits together and enables individuals, governments, corporations, and other organizations to share, consume, and interact with a universal sea of data and information representing every aspect of our lives and livelihoods.
- But today we live in a world of fundamental distrust.
- Pervasive distrust in our governments, other countries' governments, our politicians, other governing institutions, our financial institutions, large corporations (global food conglomerates, major manufacturers), the daily, hourly and instantaneous streams of information we consume (news, weather, climate, and other world-impacting events), and the social platform companies and software applications we interact with every day.



# WHAT IS TRUST?

- Definitions of trust typically refer to a situation characterized by the following aspects:
  - one party (trustor) is willing to rely on the actions of another party (trustee); the situation is directed to the future.
- In addition, the trustor (voluntarily or forcedly) abandons control over the actions performed by the trustee. As a consequence, the trustor is uncertain about the outcome of the other's actions; they can only develop and evaluate expectations.
- The uncertainty involves the risk of failure or harm to the trustor if the trustee will not behave as desired.

Wikipedia: [https://en.wikipedia.org/wiki/Trust\\_\(social\\_science\)](https://en.wikipedia.org/wiki/Trust_(social_science))



# WHAT IS DISTRUST?

## *Noun*

- *the feeling that someone or something cannot be relied upon.*
- *synonyms: mistrust, suspicion, wariness, chariness, lack of trust, lack of confidence, lack of faith; scepticism, doubt, doubtfulness, dubiety, cynicism; misgivings, questioning, qualms; disbelief, unbelief, incredulity, incredulousness, discredit; informalleeriness*

## *Verb*

- *doubt the honesty or reliability of; regard with suspicion.*
- *synonyms: mistrust, be suspicious of, be wary/chary of, regard with suspicion, suspect, look askance at, have no confidence/faith in; be skeptical of, have doubts about, doubt, be unsure of/about, be unconvinced about, take with a pinch/grain of salt; have misgivings about, wonder about, question;*

Lexico.com: <https://www.lexico.com/en/definition/distrust>



# THE “THING” PROBLEM

- DID-SPEC: Focus limited people and organizations and verifiable identities
- “Things” were mentioned but otherwise missing from the specification; esp. Business Documents

The screenshot shows a web browser window displaying the W3C Community Group Final Report for Decentralized Identifiers (DIDs) v0.13. The page title is "Decentralized Identifiers (DIDs) v0.13 Data Model and Syntaxes". The report is dated 13 August 2019. The page includes a table of contents on the left, a list of editors (Drummond Reed, Manu Sporny, Markus Sabadello), authors (Drummond Reed, Manu Sporny, Dave Longley, Christopher Allen, Ryan Grant, Markus Sabadello), and a "Participate" section with links to the GitHub repository and a bug report.

Decentralized Identifiers (DIDs) v0.13  
Data Model and Syntaxes

Final Community Group Report 13 August 2019

**Latest editor's draft:**  
<https://w3c-ccg.github.io/did-spec/>

**Editors:**  
[Drummond Reed \(Evernym\)](#)  
[Manu Sporny \(Digital Bazaar\)](#)  
[Markus Sabadello \(Danube Tech\)](#)

**Authors:**  
[Drummond Reed \(Evernym\)](#)  
[Manu Sporny \(Digital Bazaar\)](#)  
Dave Longley ([Digital Bazaar](#))  
[Christopher Allen \(Blockchain Commons\)](#)  
Ryan Grant  
[Markus Sabadello \(Danube Tech\)](#)

**Participate:**  
[GitHub w3c-ccg/did-spec](#)  
[File a bug](#)

**TABLE OF CONTENTS**

- 1. Introduction**
  - 1.1 A Simple Example
  - 1.2 Design Goals
  - 1.3 Interoperability
- 2. Terminology**
- 3. Data Model**
  - 3.1 Document
  - 3.2 Keys
  - 3.3 Services
- 4. Decentralized Identifiers (DIDs)**
  - 4.1 Generic DID Syntax
  - 4.2 Method-Specific Syntax
  - 4.3 Generic DID Parameter Names



# THE “THING” PROBLEM

- Sovrin Governance Framework and Glossary: Same initial focus was people and organizations
- “Things” and “Thing Controllers” are now (almost) first-class citizens in the framework

Sovrin Governance Framework Architecture Reference Model (SOVRIN ARM)

Model Tree

Sovrin Governance Framework Architecture Reference Model (SOVRIN ARM)

- ▶ Model Content
- ▼ Views
  - [ROLES: All Roles Viewpoint](#)
  - [ROLES: Appendix B - Taxonomy of Entities](#)
  - [ROLES: Cloud and Edge Agents](#)
  - [ROLES: Core Functional Roles](#)

Select an element in the model tree or in a view to show its details here

ROLES: All Roles Viewpoint (No Viewpoint)

Documentation Properties Elements Relationships

Sovrin Governance Framework Comprehensive Architecture Reference Model (SOVRIN ARM)



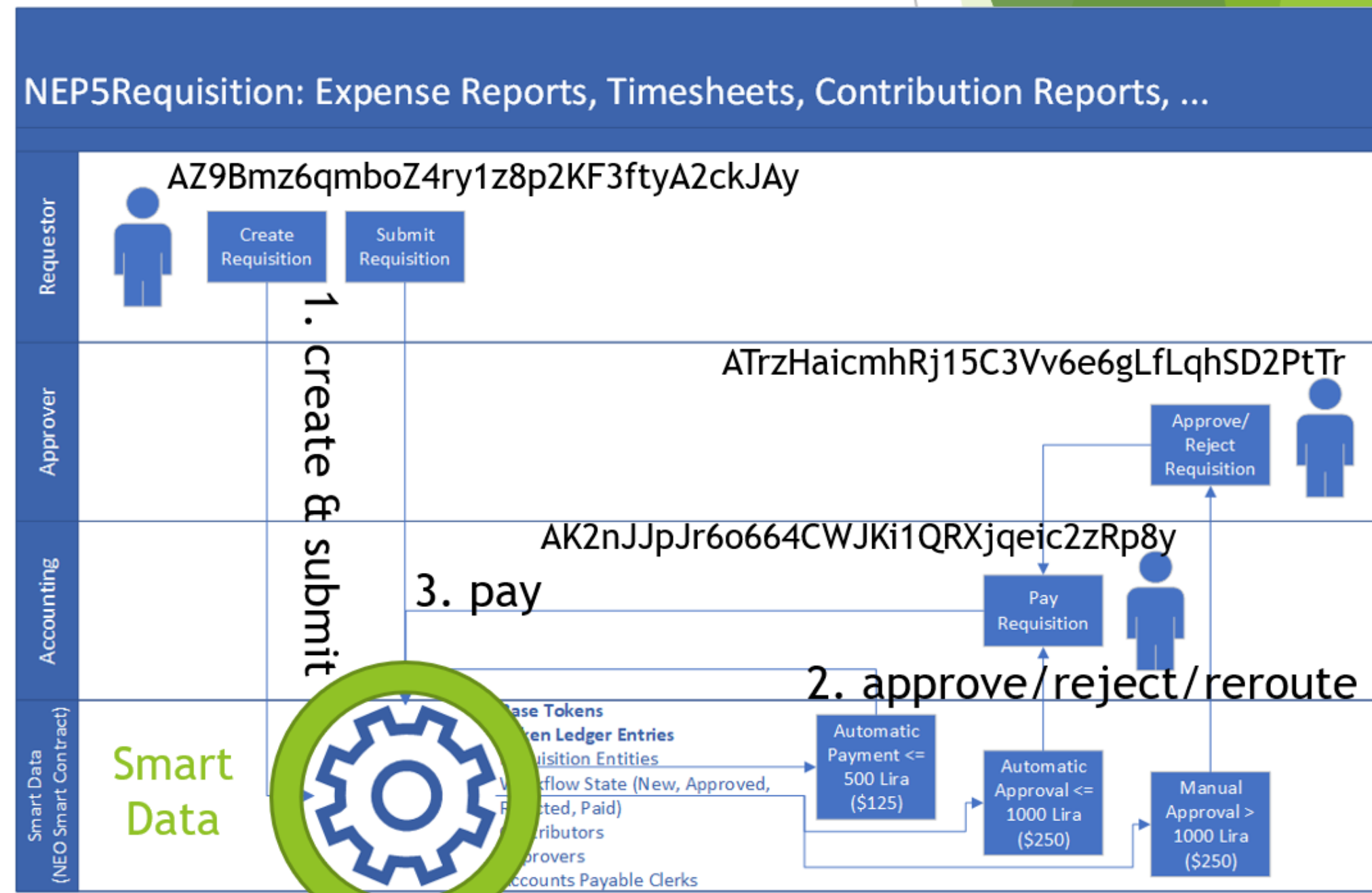
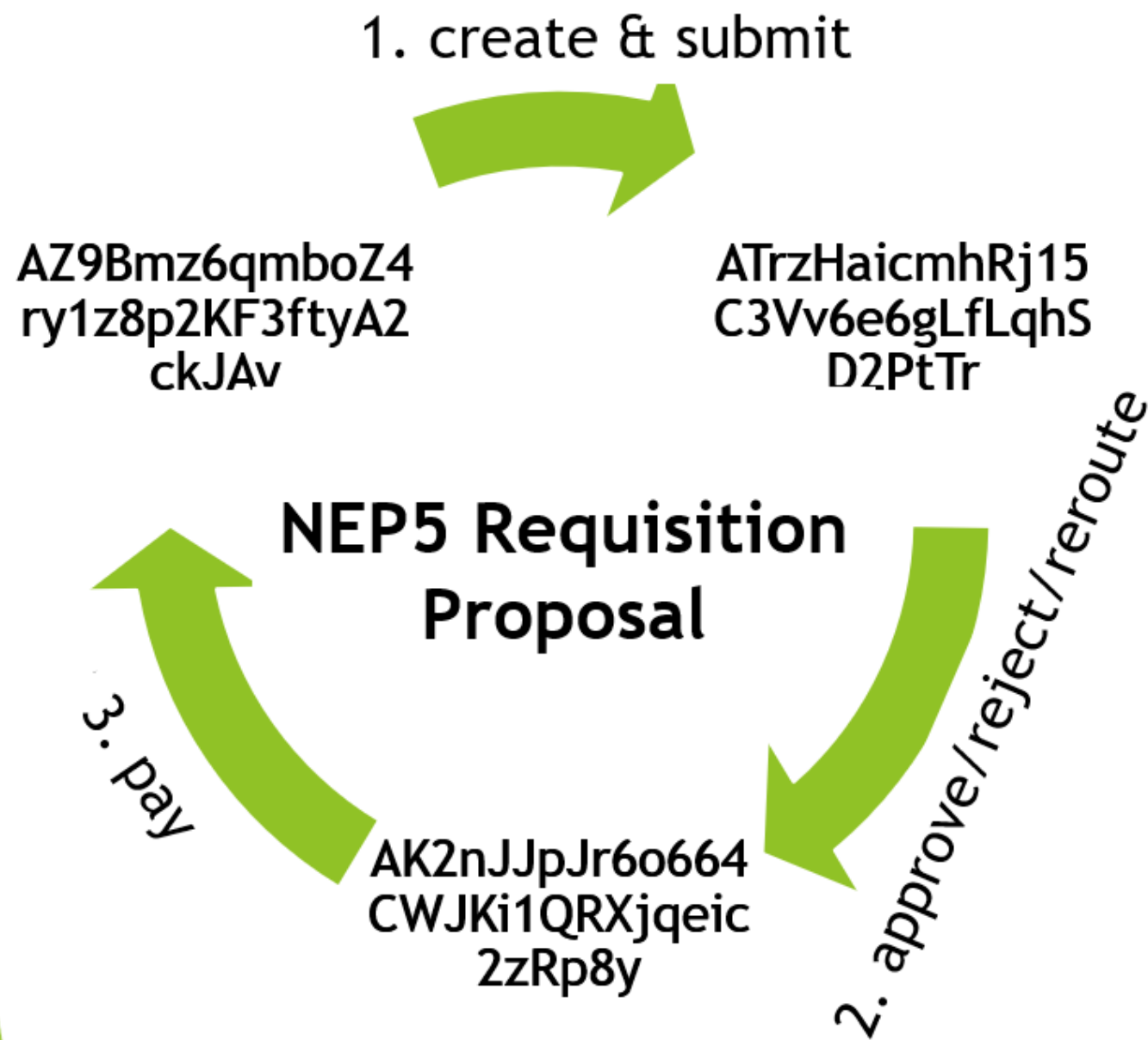
# ADDITIONAL CONTEXT

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# Think Deeply about the Smart Economy

“Future world where the boundary between real assets in the physical world and digital assets in the digital world has been removed.”  
[Malcolm Lerider]





# THE BLOCKCHAIN WORLD STARTED TO GROW & MULTIPLY



Workflows &  
Business Processes

Universality  
Verifiable Trust  
Digital Identity

Smart Contracts



# REQUIREMENTS FOR A NEW SOLUTION

- A new solution is needed that integrated and knits together:
  - Payments
  - Business Processes
  - Business Documents
- A new model is needed to support:
  - Universal
  - Trusted
  - Frictionless
  - Integrated
  - Standards-based
  - General-purpose
  - End-to-end Commerce Platform

# A SOLUTION

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# A NEW SOLUTION BASED FUNDAMENTALLY ON TRUST

- *Trust is one of the things that permeates across the whole business. It is the bedrock of business and without it organizations are going to struggle to keep their existing customers, gain new customers or enter new markets.*
  - [Stephen Walsh, director of security for Northern Europe, CA:  
<https://www.csoonline.com/article/3297037/what-is-digital-trust-how-csos-can-help-drive-business.html>]







# DECENTRALIZED CURRENCY

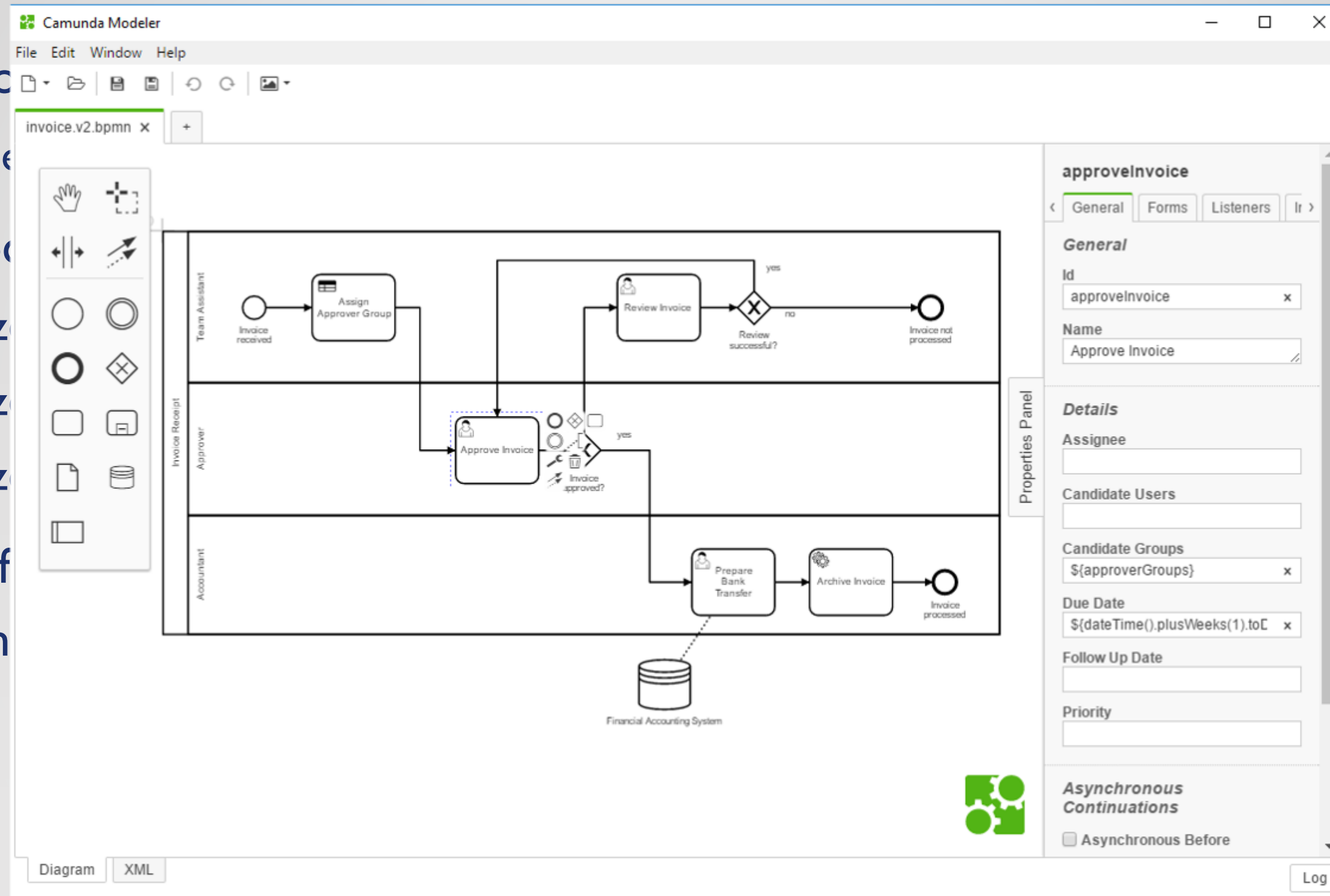
- Use of existing decentralized currencies (cryptocurrencies), gateways and exchanges
- Based by the underlying blockchain platform used for digital identity and credential verification





# DECENTRALIZED WORKFLOWS

- Graphical modeling
  - “Swim lane”
- Business Process
  - Standardized
  - Standardized
  - Standardized
- BPMN workflow execution on

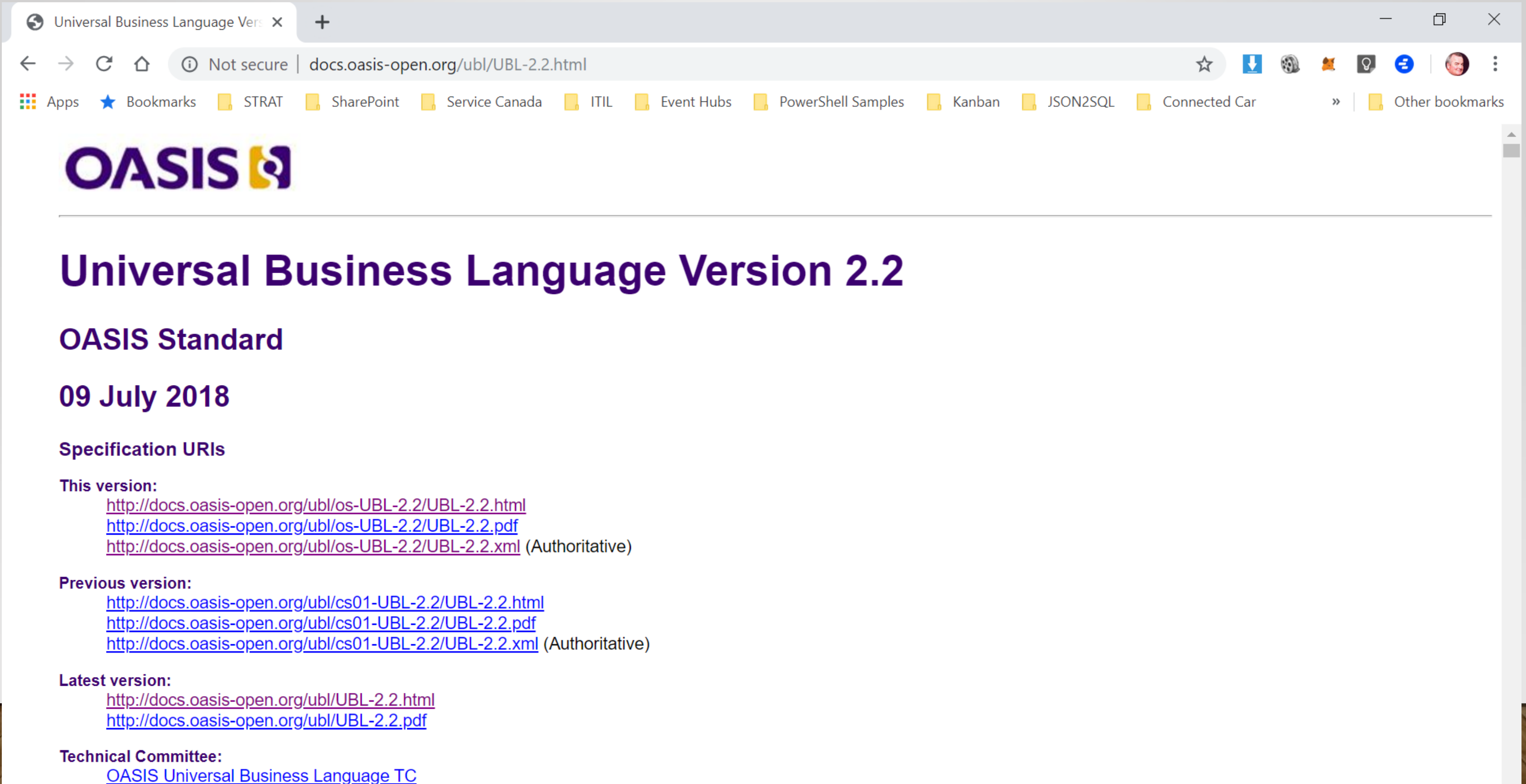


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# UNIVERSAL DIGITAL IDENTIFIERS AND DIGITAL IDENTITIES



The image is a screenshot of a web browser displaying the OASIS Universal Business Language Version 2.2 page. The browser's address bar shows the URL [docs.oasis-open.org/ubl/UBL-2.2.html](http://docs.oasis-open.org/ubl/UBL-2.2.html). The page features the OASIS logo at the top left, followed by the title "Universal Business Language Version 2.2" in a large, bold, purple font. Below the title, the text "OASIS Standard" and "09 July 2018" are displayed in a smaller purple font. The page is organized into sections: "Specification URIs", "This version:", "Previous version:", "Latest version:", and "Technical Committee:". Each section contains one or more hyperlinks to related documents, with the authoritative XML version highlighted in purple.

Universal Business Language Vers x +

← → ↻ 🏠 ⓘ Not secure | docs.oasis-open.org/ubl/UBL-2.2.html ☆ ⬇️ 🎬 🐞 💡 📧 👤 ⋮

📱 Apps ★ Bookmarks 📁 STRAT 📁 SharePoint 📁 Service Canada 📁 ITIL 📁 Event Hubs 📁 PowerShell Samples 📁 Kanban 📁 JSON2SQL 📁 Connected Car » 📁 Other bookmarks

# OASIS

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## Universal Business Language Version 2.2

### OASIS Standard

### 09 July 2018

#### Specification URIs

**This version:**

- <http://docs.oasis-open.org/ubl/os-UBL-2.2/UBL-2.2.html>
- <http://docs.oasis-open.org/ubl/os-UBL-2.2/UBL-2.2.pdf>
- <http://docs.oasis-open.org/ubl/os-UBL-2.2/UBL-2.2.xml> (Authoritative)

**Previous version:**

- <http://docs.oasis-open.org/ubl/cs01-UBL-2.2/UBL-2.2.html>
- <http://docs.oasis-open.org/ubl/cs01-UBL-2.2/UBL-2.2.pdf>
- <http://docs.oasis-open.org/ubl/cs01-UBL-2.2/UBL-2.2.xml> (Authoritative)

**Latest version:**

- <http://docs.oasis-open.org/ubl/UBL-2.2.html>
- <http://docs.oasis-open.org/ubl/UBL-2.2.pdf>

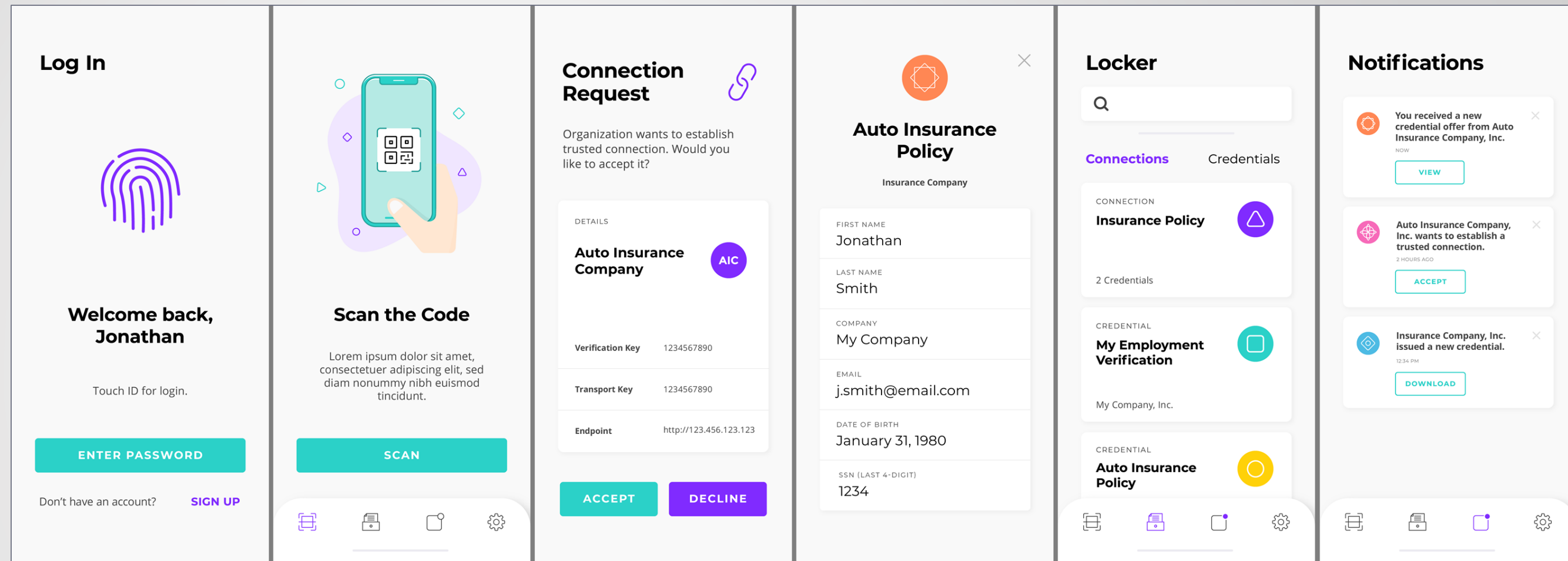
**Technical Committee:**

- [OASIS Universal Business Language TC](#)

# TRUSTED DIGITAL ASSISTANT (TDA)

## Fully Integrated Experience

- Mobile UX
- Mobile AI
- Mobile Agent
- Mobile Wallet
- Wallet Subledgers





# UNIVERSAL DID SERVER (#UDIDSERVER)



Trusted  
Digital  
Web

- Based on existing, common, every day protocols: DNS

The screenshot shows the Universal DID Server web interface. The browser address bar indicates the URL is localhost:5380. The page title is "Universal DID Server" and the user is logged in as "admin". The main content area shows the "Zones" tab selected, displaying a list of records for the domain "neonation.did".

UDID Server - desktop-u8p7e0q

Dashboard Zones Cache Allowed Zones Blocked Zones UDID Client Settings DHCP Logs About

← Back

neonation.did [Add Record](#)

Name	Type	TTL	Data	
06AE4B28-1C2D-4783-96A5-2E35A196004B	DIDID	3600	06AE4B28-1C2D-4783-96A5-2E35A196004B	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>
06AE4B28-1C2D-4783-96A5-2E35A196004B	DIDCTX	3600	https://w3id.org/did/v1	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>
06AE4B28-1C2D-4783-96A5-2E35A196004B	DIDCTX	3600	https://w3id.org/security/v1	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>
06AE4B28-1C2D-4783-96A5-2E35A196004B	DIDSVC	3600	<b>SVC DID:</b> did:services:06AE4B28-1C2D-4783-96A5-2E35A196004C <b>Type:</b> Lookup <b>Description:</b> Lookup description <b>Service Endpoint URL:</b> http://foo/bar	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>
06AE4B28-1C2D-4783-96A5-2E35A196004B	DIDPUBK	3600	did:person:06AE4B28-1C2D-4783-96A5-2E35A196004B	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>
@	NS	14400	desktop-u8p7e0q	<a href="#">Edit</a> <a href="#">Disable</a> <a href="#">Delete</a>

# ○ FINAL NOTES

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**NEON**

*Never Ending innOvation*

**NATION**

*Independent Nation State*

*Consortium • Volume Buying Group • Integrated  
Supply Chain • Social Community • Value Added  
Network Corporation • Society*

**Trusted Digital Web**

**HYPERONOMY**

**BUSINESS**

**BLOCKCHAIN**

Friction-less, trusted, standards-based,  
general-purpose platform for

end-to-end business processing on a global scale

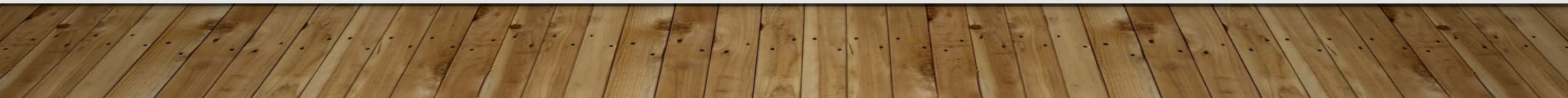
# SOCIAL EVOLUTION AND THE CREATION OF A NATION STATE



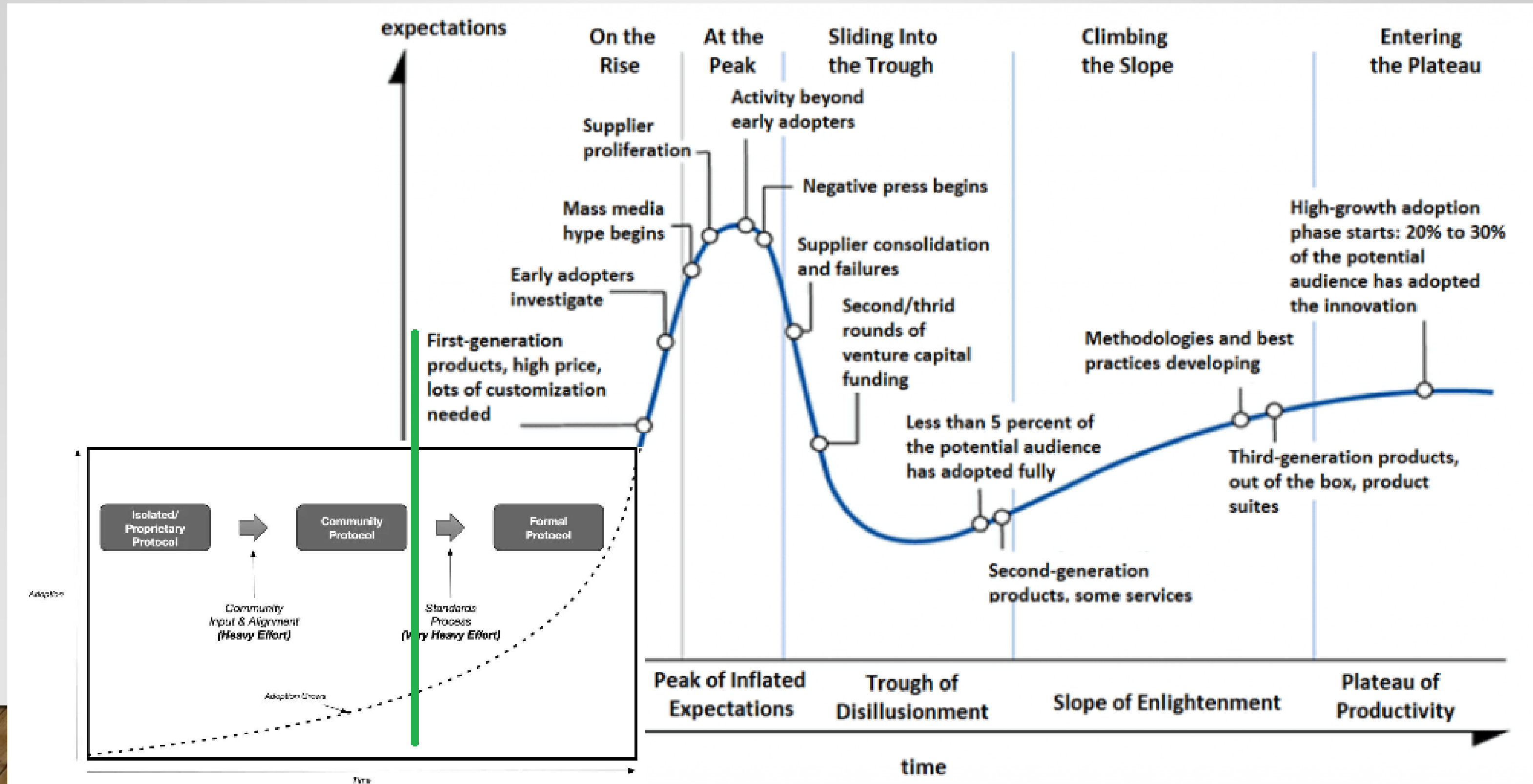


# NOTE OF CAUTION

- We're still in the very early market in relation to the use and application of blockchain technology ...especially as it relates to digital identity
- While there are a number of leading specifications, implementations, and governance frameworks in the market today, I don't believe they are close to becoming "the industry standard"
- They are too new, too unproven, and too risky. Need to consider other technologies that are pervasive on the Internet, in your data centers, and in the Cloud
- "Change is inevitable"



# FINAL NOTE ON ADOPTION





# ○ QUESTIONS?

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