

# State of Delaware “DoCTrust” Blockchain Proof of Concept

think 2019

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Public Service Blockchain Leader

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Deputy Secretary of State for Delaware  
Director of Division of Corporations

# Agenda

## State of Delaware

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## Initial Focus

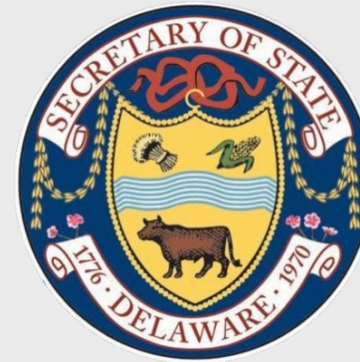
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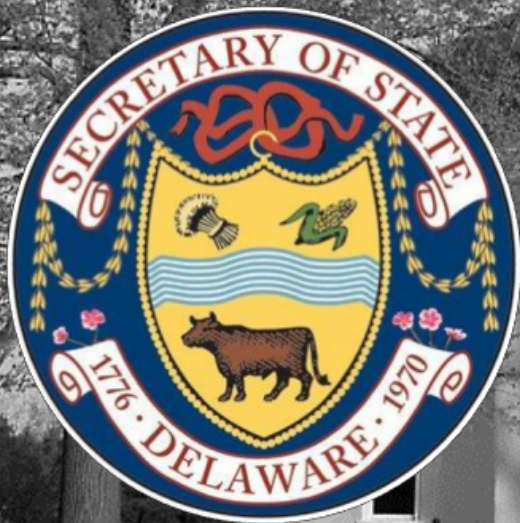
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## Results & Next Steps

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## About the Secretary of State

The Secretary of State oversees an extremely diverse department with responsibilities in virtually every aspect of state government: economic development, finance, transportation, housing, education, culture and quality-of-life issues. The staff in the Office of the Secretary provides financial, personnel, training and legislative services to the Department's divisions.

# WHY DELAWARE & WHY BLOCKCHAIN

## Background

The Secretary of State's office, legal community, and registered agents discussed ideas on where to apply blockchain technology and Smart Contracts to **increase business value**. There was wide agreement – and excitement – that blockchain can **enable new services and deliver significant value to the capital markets ecosystem**. There were general ideas as to which business area should be the initial focus, but the ideas needed to be refined in order to arrive at a consensus.

## Need

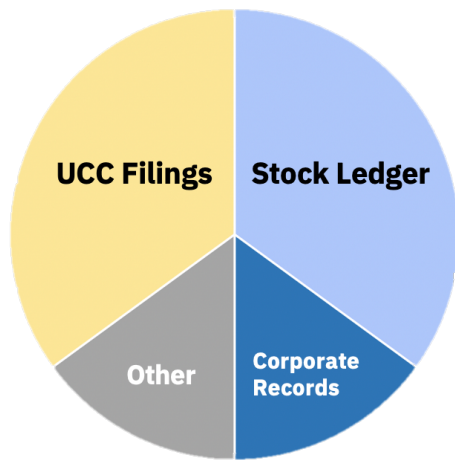
The Secretary of State's office, legal community, and registered agents, and IBM participated in a **prioritization workshop** in early 2018 with the purpose of exploring a number of ways to use of blockchain technology. The agreed outcome of the workshop was to execute an initial **Proof of Concept** with focus on the UCC filings and Stock Ledger business areas.

## Approach

Engaged IBM to build and demonstrate a **Proof of Concept** showing how a blockchain-enabled Delaware **UCC filings process and Stock Ledger capabilities** could improve efficiency, data accuracy, and communication for all members of the business network. The intent is to **enhance the State of Delaware's brand** by creating a more standardize, dynamic workflow to reduce filing and stock issuance errors.

Initial Focus

# Prioritization Session Outcome



## Other Ideas

- Proof of Insurance
- Business Licenses
- Abandoned Property Reclamation
- Taxes
- Property Titles
- Inter-agency Data Sharing

## Guiding Principles

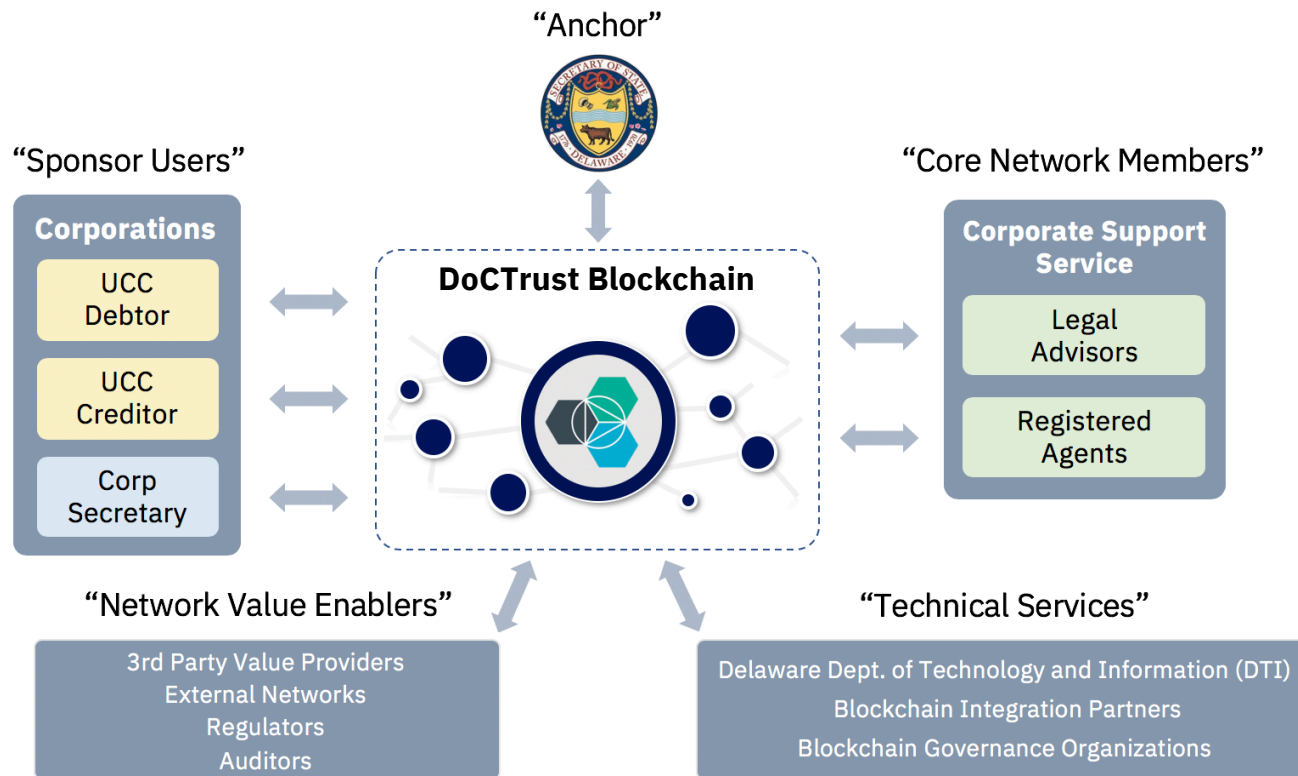
- ❖ Return value and positive impact for the citizens of the State of Delaware
- ❖ Protect and enhance the State of Delaware's corporate brand
- ❖ Implement in an organized, thoughtful, and efficient manner
- ❖ Reinforce a business-friendly environment and provide a predictable, reliable, and efficient process



Initial Focus

# Business Network

**Top-level goal:** One source of truth for UCC and Stock Ledger information



“Easily Accessible”

“Same answer across business network”

“Know when something changed”

“Know when something is not right”

“Auditable and Immutable”

“Ability today to notify, and in near future to automate”

“Aggregate Delaware information with ‘my other data’”

# Pain Points



## UCC Filings

- Involve multiple intermediaries, and errors can be consequential
- Time-lag between reflecting real-time activities altering filing information e.g. Debtor name change
- Collateral assets are not tracked and can yield unsecured filings
- Double pledges
- Very large amount of analysis done by paralegals
- Bankruptcy type accidents



## Stock Ledger

- Lack of visibility and controls to prevent over-issuance of shares
- Manual process today and prone to errors leading to high risk for corporate secretaries
- Long tedious process today to trace and re-trace through records to identify current holdings and related information
- Legal counsel is heavily relied on for due diligence, oftentimes duplicative
- Can be time consuming to get shareholder votes promptly for private companies due to lack of real-time ownership tracking

# Hills

## “UCC History”

**Secured Party & Debtor personnel** will be able to access company UCC filing history so they can obtain a consolidated view.

## “Lien Drill-down”

**Secured Party & Debtor personnel** will be able to review unique filing and collateral details recorded on blockchain and by State of Delaware.

## “Stock Ledger”

**Corporation personnel** will be able to access the company stock ledger and capitalization table to obtain a consolidated view.

## “Fact Funnel”

**Corporation personnel** will be able to review documents and stock details recorded on blockchain and by State of Delaware.

## “Alerts & Notifications”

**Secured Party & Debtor personnel** will be notified when UCC filings involving the company have occurred. **Corporation personnel** will be alerted when certain audit or risk exposure situations have occurred so complex issues, such as over-issuance of stocks, can be more properly addressed.

## “Permissions”

**Legal advisors** will have a consolidated historical view of their client’s UCC filing history, stock ledger, capitalization table, and other corporate activities with the State of Delaware - saving time and eliminate duplicate workflows.

## “Enabler”

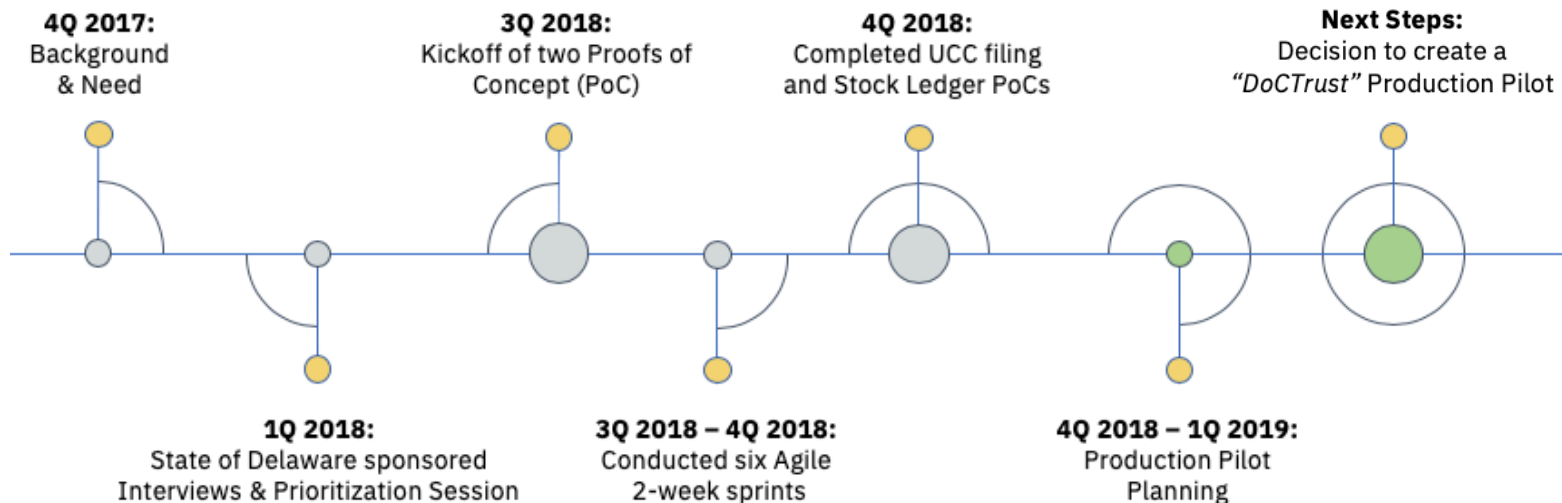
**The State of Delaware** will provide a blockchain-enabled platform for corporations and other users to have aggregated views of business critical data providing more timely reviews for the State. Further demonstrating that Delaware is the greatest place to incorporate and conduct business in.



## Results and Next Steps

# PoC and Project Timeline

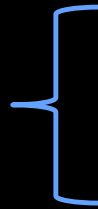
- ✓ Both PoCs showed overall value to business network
- ✓ Several value points were realized leveraging capabilities unique to blockchain
- ✓ Overall interest and support from business network participants grew during PoC phase
- ✓ Delaware's role as Business Network sponsor / enabler, but not blockchain owner, was verified
- ✓ Delaware's unique business community - "small, connected, and blockchain savvy"
- ✓ Delaware has the product owner and vision to make this happen



# Demo Scenarios

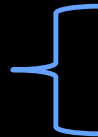
## Scenario 1 – New Investor Stock Issuance

Capitalization  
Table



- Over-issuance attempt
- 90% threshold for issued vs. authorized share capacity
- Share issuance

Stock Ledger



- Transaction recorded
- Add supplemental documentation

 UCC HISTORY

 CAPITALIZATION TABLE

 STOCK LEDGER

 CREATE FILING

 PERMISSIONS

 NOTIFICATIONS

### Summary Table

[Excel Export](#)

	AUTHORIZED					
	UNISSUED		ISSUED		TOTAL	PAR VALUE
	UNRESERVED	RESERVED	OUTSTANDING	TREASURY		
Common Stock	15,000	0	12,600	2,400	30,000	0.001
Series A Preferred Stock	400	0	600	0	1,000	0.001
Series B Preferred Stock	3,500	0	1,500	0	5,000	0.001
<b>Total</b>	18,900	0	14,700	2,400	36,000	

Total Shares




[Issue Shares](#)


[Buyback Shares](#)

### Stock List

Shareholder	Address	Share Class ^	Amount Owned	% Owned
Simple Capital LLC	99 Wilmington Rd, Wilmington, DE	Common Stock	6,800	53.97%
Tech Giants	13 3rd Street, San Fransisco, CA	Common Stock	7,000	55.56%
The Financial Investors	5 Madison Ave, New York, NY	Series A Preferred Stock	400	66.67%
Venture Capital Partners	123 Wall Street, New York, NY	Series A Preferred Stock	200	33.33%
The Financial Investors	5 Madison Ave, New York, NY	Series B Preferred Stock	300	20%
Venture Capital Partners	123 Wall Street, New York, NY	Series B Preferred Stock	1,200	80%

 UCC HISTORY

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Total Shares



Shareholder	Address	Share Class	Share Amount
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<a href="#">Issue Shares</a>	<a href="#">Cancel</a>		

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-  UCC HISTORY
-  CAPITALIZATION TABLE
-  STOCK LEDGER
-  CREATE FILING
-  PERMISSIONS
-  NOTIFICATIONS

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Shareholder	Address	Share Class	Share Amount
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Issue Shares

Cancel

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 UCC HISTORY

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Excel Export

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	UNRESERVED	RESERVED	OUTSTANDING	TREASURY				
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Series A Preferred Stock	0	0	0	0	0	0.01		
Series B Preferred Stock	3,500	0	1,500	0	5,000	0.01		
<b>Total</b>	18,000	0	14,700	2,400	36,000			

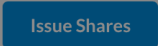

### Total Shares



Share amount will exceed the number of authorized shares. Refer to your legal representative.





Shareholder: XYZ Capital | Address: 91 Collins Dr, Dover, DI | Share Class: Series B Preferred Stc | Share Amount: 34000

### Stock List

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ABC TECHNOLOGY INC   
 123 MAIN STREET,  
 WILMINGTON, DE

 UCC HISTORY

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Total Shares



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Issue Shares

Cancel

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ABC TECHNOLOGY INC   
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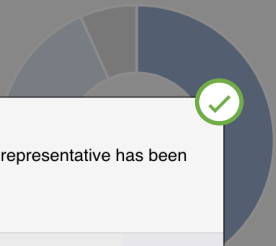

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 PERMISSIONS

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Total	18,900	0	14,700	2,400	36,000			

Number of issued shares for Series B Preferred have reached or exceeded 90% of the total the number of authorized. Your legal representative has been notified

OK


Shareholder: XYZ Capital  
Address: 91 Collins Dr, Dover, DI  
Share Class: Series B Preferred Stc  
Share Amount: 3400

Issue Shares Cancel

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Shareholder	Address	Share Class	Amount Owned	% Owned
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ABC TECHNOLOGY INC   
 123 MAIN STREET,  
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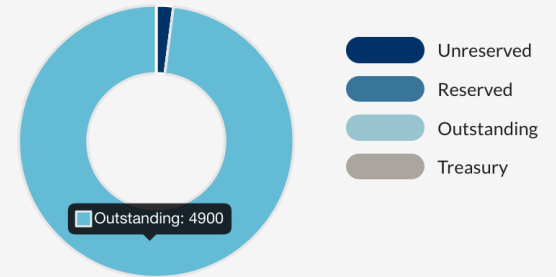
Excel Export

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Common Stock	15,000	0	12,600	2,400	30,000	0.001
Series A Preferred Stock	400	0	600	0	1,000	0.001
Series B Preferred Stock	100	0	4,900	0	5,000	0.001
<b>Total</b>	15,500	0	18,100	2,400	36,000	

Issue Shares

Buyback Shares




### Series B Preferred Shares




### Stock List

Shareholder	Address	Share Class	Amount Owned	% Owned
The Financial Investors	5 Madison Ave, New York, NY	Series B Preferred Stock	300	6.12%
Venture Capital Partners	123 Wall Street, New York, NY	Series B Preferred Stock	1,200	24.49%
XYZ Capital	91 Collins Dr, Dover, DE	Series B Preferred Stock	3,400	69.39%
The Financial Investors	5 Madison Ave, New York, NY	Series A Preferred Stock	400	66.67%
Venture Capital Partners	123 Wall Street, New York, NY	Series A Preferred Stock	200	33.33%
Simple Capital LLC	99 Wilmington Rd, Wilmington, DE	Common Stock	6,800	53.97%
Tech Giants	13 3rd Street, San Fransisco, CA	Common Stock	7,000	55.56%

Excel Export

Issued Date	Record ID	Shareholder	Share Class	Share Type	Share Quantity	Transaction Type	Attachment
11/28/18 2:57 pm	8127	XYZ Capital	Series B Preferred Stock	Outstanding	3,400	Original Issue	 Click to add attachment
11/27/18 8:19 pm	3568		Series B Preferred Stock	Authorized Unreserved	3,000	Amendment	Click to add attachment
11/27/18 8:19 pm	6302	Venture Capital Partners	Series A Preferred Stock	Outstanding	200	Original Issue	Click to add attachment
11/27/18 8:19 pm	9912	The Financial Investors	Series B Preferred Stock	Outstanding	300	Original Issue	Click to add attachment
11/27/18 8:19 pm	8260	The Financial Investors	Common Stock	Treasury	1,200	Buyback	Click to add attachment
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11/27/18 8:18 pm	5255	The Financial Investors	Series A Preferred Stock	Outstanding	400	Original Issue	Click to add attachment
11/27/18 8:18 pm	6198	Tech Giants	Common Stock	Outstanding	7,000	Original Issue	Click to add attachment
11/27/18 8:18 pm	7697	Simple Capital LLC	Common Stock	Outstanding	8,000	Original Issue	Click to add attachment
11/17/18 8:18 pm	2325		Common Stock	Authorized Unreserved	30,000	Original Authorization	
11/07/18	4328		Series B Preferred Stock	Authorized Unreserved	2,000	Original Authorization	

 UCC HISTORY

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 STOCK LEDGER

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11/07/18							

  
**Attach Document?**



Excel Export

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 UCC HISTORY

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 CREATE FILING

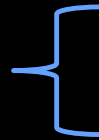
 PERMISSIONS

 NOTIFICATIONS

## Demo Scenarios

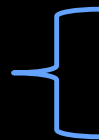
### Scenario 2 – Debtor Corporation reviews UCC filing information

Simulated Systems  
Feeding Blockchain



- UCC filing done by Registered Agent
- Debtor links unique UCC-ID from filing to invoicing system

UCC History



- UCC filing transaction recorded
- Lien drill-down for additional information



345 JEFFERSON STREET,  
DOVER, DE

UCC HISTORY

CAPITALIZATION TABLE

STOCK LEDGER

CREATE FILING

PERMISSIONS

NOTIFICATIONS

USE FOR DEMO PURPOSES ONLY!

UCC Filing

Company Name Change

Authorized Shares Update

Auto Generate

TYPE

UCC1C

ID

UCC-504

DESCRIPTION

UCC-1 covering property of 100 acres

COLLATERAL TYPE

LAND

COLLATERAL

Invoice #1024

TIME FILED

2018-11-28T22:09:55.962Z

EXPIRATION DATE

2023-11-28T05:00:00.000Z

DEBTOR

ABC Technology Inc

Submit



# ABC TECHNOLOGY

ACCOUNTS RECEIVABLE

As of 11/07/2018

DATE	TRANSACTION TYPE	UCC-ID	NUM	CUSTOMER	DUE DATE	AMOUNT	OPEN BALANCE
11/7/18	Invoice	UCC-504	1024	Startup Finance Bank, Inc.	11/7/18	\$156.00	\$156.00
10/18/18	Invoice	UCC-161	1027	JL Circuits	10/18/18	\$75.00	\$75.00
10/17/18	Invoice	UCC-203	1031	Kal Systems	10/17/18	\$81.00	\$81.00
10/17/18	Invoice	UCC-161	1022	JL Circuits	10/17/18	\$85.00	\$85.00
9/28/18	Invoice	UCC-095	1025	RedRock LLC	9/28/18	\$750.00	\$750.00
9/28/18	Invoice	UCC-095	1043	RedRock LLC	9/28/18	\$81.00	\$81.00
9/28/18	Invoice	UCC-095	1003	RedRock LLC	9/28/18	\$459.00	\$459.00
9/25/18	Invoice	UCC-711	1037	Travis & Waldrom	9/25/18	\$274.50	\$274.50
9/22/18	Invoice	UCC-203	1020	Kal Systems	9/22/18	\$54.00	\$54.00
8/16/18	Invoice	UCC-989	1040	Rondonuwu, Inc.	8/16/18	\$80.00	\$80.00
8/9/18	Invoice	UCC-203	1007	Kal Systems	8/9/18	\$414.72	\$414.72
8/7/18	Invoice	UCC-989	1035	Rondonuwu, Inc.	8/7/18	\$70.00	\$70.00
8/4/18	Invoice	UCC-203	1021	Kal Systems	8/4/18	\$80.00	\$80.00
8/4/18	Invoice	UCC-271	1035	RedRock LLC	8/4/18	\$375.00	\$375.00
8/4/18	Invoice	UCC-989	1018	Rondonuwu, Inc.	8/4/18	\$954.75	\$954.75
8/3/18	Invoice	UCC-711	1015	Travis & Waldrom	8/3/18	\$78.60	\$78.60
8/3/18	Invoice	UCC-161	1034	JL Circuits	8/3/18	\$629.10	\$629.10

 UCC HISTORY

 CAPITALIZATION TABLE


 STOCK LEDGER

 CREATE FILING

 PERMISSIONS

 NOTIFICATIONS

Secured Party **Debtor**

Filed On	Description	Type	UCC ID 	Expiration	Secured Party	Debtor
11/28/18 12:00 am	UCC-1 covering property of 100 acres	UCC1C	UCC-504	11/28/23 12:00 am	Startup Finance Bank Inc	ABC Technology Inc





 UCC HISTORY

 CAPITALIZATION TABLE

 STOCK LEDGER

 CREATE FILING

 PERMISSIONS

 NOTIFICATIONS

Secured Party

**Debtor**

Filed On	Description	Type	UCC ID	Expiration	Secured Party	Debtor
11/28/18 12:00 am	UCC-1 covering property of 100 acres	UCC1C	UCC-504	11/28/23 12:00 am	Startup Finance Bank Inc	ABC Technology Inc

### UCC1C

**Ucc ID:** UCC-504

**Time Filed:** 11/28/18 12:00 am

**Collateral Type:**

**Description:** UCC-1 covering  
property of 100 acres

**Expiration:** 11/28/23 12:00 am

**Collateral:** Invoice #1024

**Secured Party:** Startup Finance Bank Inc

**Secured Party Address:** 345 Jefferson Street, Dover, DE

**Secured Party Email:** info@sfb.com

**Secured Party Phone:** 302 745 9842

**Debtor:** ABC Technology Inc


**Debtor Address:** 123 Main Street, Wilmington, DE

**Debtor Email:** info@abctechnology.com

**Debtor Phone:** 302 345 9848

**Attachments:**

## NEXT STEPS | TRANSITION POC TO PILOT



**WHAT YOU  
NEED TO  
KNOW**

### PoC Completion

- Defined business challenges specific to the use case
- Used the outputs to create a prototype utilizing Agile sprints to incrementally build project functionality
- Demonstrated prototype to stakeholders

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### Pilot Planning

- Begin to build out and quantify further value to key network members for pilot phase
- Continue to incrementally scale to include additional use cases
- Note potential for future business process re-engineering and integration points to existing systems



### Production Pilot Build

- Intention to build on PoC to develop production pilot functionalities
- Intention to integrate blockchain with anchor member systems
- Intention to test governance model and verify rules and roles of the network
- Intention to monitor use for full production model

# Please note

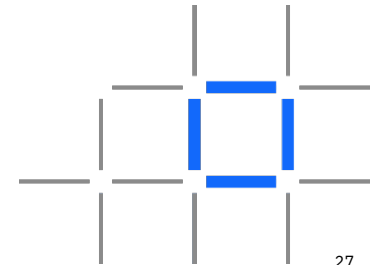
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