

OUR TECHNOLOGY

# PERMISSIONED **DLT PLATFORM** BUILT FOR FINANCIAL MARKETS

The PeerNova Cuneiform Platform is a permissioned DLT platform that reduces friction in financial markets, resulting in higher revenues, reduced operational cost, and lower risk while improving trust and transparency.

Cuneiform has been purpose-built to meet the unique needs of global financial markets. It provides a trusted decentralized network, where financial institutions and their corporate clients can share data and mutualize business processes on a permissioned shared ledger. This eliminates reconciliations and redundant processing while reducing settlement cost and cycle times. Institutions can unlock additional revenue opportunities by creating entirely new types of financial assets and modeling their complete lifecycle on a

permissioned shared ledger. For existing assets, institutions can gain revenue-generating insights from data analytics that combine public on-chain data with their private off-chain enterprise data. They can reap these benefits while maintaining complete participant privacy and transaction confidentiality.

Cuneiform has a flexible architecture that can be used in any market model, across any asset class, with any number of diverse participants such as banks, broker/dealers, exchanges, CCPs and CSDs, investment managers, and corporate end-clients. Cuneiform can be used to build networks that are self-governed, centrally-governed, internal (enterprise) or hybrid.



## CUNEIFORM PLATFORM **FEATURES**



### PERMISSIONED NETWORK

Enables multiple institutions to securely and confidentially share data and business logic on a permissioned shared ledger. Full support for bootstrapping network, including late-joiner onboarding.



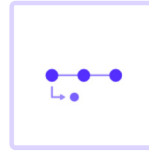
### PLUGGABLE CONSENSUS

Allows pluggable consensus model that can be tailored to specific legal and contractual agreements between network participants.



### IMMUTABLE SINGLE SOURCE OF TRUTH

Provides a decentralized, immutable single source of truth with guaranteed non-repudiation for all data and business logic that resides on the platform. Zero-knowledge proof based model enables independent third-party verification of data integrity while maintaining confidentiality.



### ON-CHAIN DATA ACCESS FOR OFF-CHAIN COMPUTE

Offloads computationally intensive tasks to off-chain processes while leveraging on-chain data.



### PARTICIPANT PRIVACY AND TRANSACTION CONFIDENTIALITY

Allows complete privacy of network participants at all times. Transactions are only visible and accessible to authorized network participants.



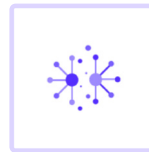
### REAL-TIME STATE-TRACKING

Uses Event Lineage™ to provide real-time front-to-back visibility into transactional states across the network, ensuring early break-detections and faster exception resolutions.



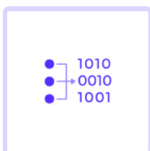
### TEMPLATE-DRIVEN SMART CONTRACT DEVELOPMENT

Enables multi-party workflows to be modeled as smart contracts. Business users can quickly create, test, and deploy these smart contracts, using standardized templates without the need to learn a new language.



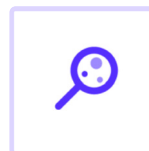
### SUPPORT FOR MULTIPLE DLT NETWORK TOPOLOGIES

Support for self-governed, centrally governed, hybrid, and enterprise network topologies.



### DIGITIZING ASSETS

Using smart contracts, users can create and model the entire lifecycle of new digital assets. Existing assets can also be modeled on the ledger for improved standardization and operational efficiency.

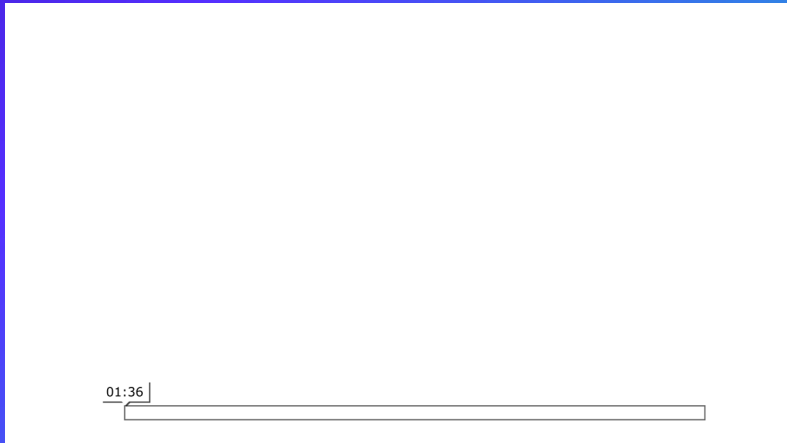


### ADVANCED ANALYTICS AND REPORTING

Provides fast and flexible search, streaming real-time analytics, and flexible dashboarding and reporting capabilities for faster decision analysis.

**Introduction**

Cuneiform Platform  
Overview

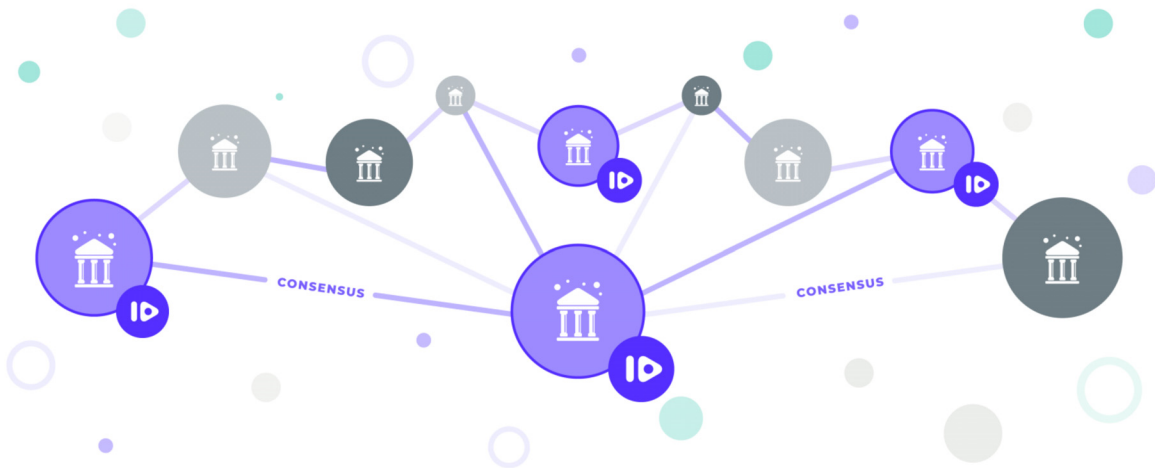


**REDUCING FRICTION**

OUR DLT SOLUTION  
**AND CUSTOMER BENEFITS**

Global financial institutions operate in a highly dynamic and competitive business environment. There are multiple sources of friction both within and across institutions, that pose significant challenges for firms and markets as a whole. These include fragmented

data and workflow models, lack of a single source of truth, lack of real-time visibility and transparency, and cyber-security vulnerabilities. The Cuneiform Platform DLT solution can significantly reduce these friction points.



**ELIMINATE RECONCILIATIONS**

DLT platforms enable a single source of truth for all data such as account balances, trade positions, and transaction amounts, thereby eliminating the need for reconciliation.

**LOWER OPERATIONAL RISK**

Real-time visibility into data as transactional workflows enables exceptions to be resolved faster. These result in reduced clearing and settlement times and lower operational risk.

**FASTER TIME-TO-MARKET FOR NEW PRODUCTS**

The ability to standardize data and business logic to mutualize non-differentiating processes between institutions improves operational efficiencies and reduces time-to-market for new financial products, which can be created and transacted entirely on the network.

**REDUCED COUNTERPARTY RISK**

Agreements can be coded into smart contracts that are executed in a shared and immutable environment. Codifying obligations and prerequisites into immutable smart contracts reduce counterparty risk.

**IMPROVED LIQUIDITY AND CAPITAL UTILIZATION**

Improved transparency driven by real-time data-sharing and asset provenance reduces risk capital outlays and improves liquidity and capital utilization.

**ENHANCED MARKET SURVEILLANCE**

Regulators can maintain monitoring nodes on market networks for real-time market surveillance, thereby improving regulatory efficiency – especially in conditions of high market volatility and stress events. Additionally, immutability and non-repudiated nature of transactions on the ledger reduce the risk of fraud.

PEERNOVA'S CHAIN IN THE VALLEY

BLOG ON MEDIUM 

April 11, 2019

[Knowledge, Wisdom, and Event Lineage](#)

 Mike Radocchio

April 24, 2019

[Reconciliations - New Paradigms for an Old Problem](#)

 Mark Jennis

April 24, 2019

[Integrating DLT with Internal Systems: The Elephant in the Room](#)

 Pravin Halady

March 18, 2019

[Five Ways to Market Blockchain The Right Way in a Noisy World](#)

 Navid Jafari

PODCAST

Chain in the Valley  
Episode 17: Learning About Your Insecurities With Security Expert, Soheil Mazaheri (Part 1 of 2)

Audio Player

00:00  
00:00 | 22:00

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Chapters

### About PeerNova

Founded in 2013 by entrepreneurs with deep expertise in blockchain, big data, and financial infrastructure, PeerNova solves some of the most prevalent challenges in the financial industry. PeerNova's Cuneiform Platform enables financial institutions to perpetually synchronize their data across multiple internal and external systems guaranteeing data and process integrity. The Cuneiform Platform simplifies reconciliation, automates exception processing, and provides greater end-to-end operational visibility across workflows in real-time. PeerNova is based in Silicon Valley with sales offices in New York and London.

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Screenshot of SaaS services platform user interface described/advertised on Applicant's above webpage:

Cuneiform Platform
SEARCH
Support Admin Logout

## Event Lineage™ ✕

This view shows data lineage information for the selected user data. Data Lineage is displayed as a set of application-specific dependency relationships between blocks. These relationships are detected based on rules set in the Data Lineage Service.

DETAILED RULE RESULTS
RECONCILIATION BY DATE ⌵

Trade database(TD)

Trade\_ID: 123456-SA  
Counter Book: APN  
Counterparty: CP XYZ  
Fixed Rate: 0  
Maturity Date: 12/21/20

CCP

TradeDate: 24-Apr-18  
MaturityDate: 12/21/21  
Notional: 77000  
Currency: EUR

MarkitWire™

Swapswire\_ID: 123456  
Counterparty I/E: CPTY\_Entity  
Trade Date: 24-Apr-18  
Notional: 500000

### Single Node Rule Status ✕

Passed	rule_name	resulting_string	description	tags	timestamp
✘ false	Float Payment Freq	td value is '1y' ccp value is '6m'	Checks if Float Payment Freq in TD matches PAYMENT_FREQUENCY in CCP	td,ccp,float pymnt freq,mw	2018-06-27T17:17:00Z
✘ false	Rate	ccp value is '0.02' td value is '2'	Checks if Rate in TD matches RATE in CCP	td,rate,ccp,mw	2018-06-27T17:17:00Z
✘ false	Fixed Day Basis	ccp value is '' td value is '30/360'	Checks if Fixed Day Basis in TD matches FIXED_BASIS in CCP	td,rate,ccp,w	2018-06-27T17:17:00Z
✘ false	Fixed Rate Freq	td value is '6m' ccp value is ''	Checks if Fixed Rate Freq in TD matches FIXED_RATE_FREQ in CCP	td,ccp,float pymnt freq,mw	2018-06-27T17:17:00Z
✔ true	td -> ccp trading_party	td value is 'TD_TP_1' translated td value is 'ccp_XX_1'	Checks if Trading Party in TD matches the value in CCP	td,ccp,trading party,mw	2018-06-27T17:17:00Z

Rows: 10    1-10 of 32