OSFF 2026 New York

Bridging on-chain and off-chain Finance: Integrating FINOS CDM with Smart Contracts

International Capital Market Association

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Overview of the International Capital Market Association

ICMA is a not-for-profit trade association, established well over five decades ago, whose mission is to promote resilient and well-functioning international debt capital markets.

ICMA has offices in Zurich, London, Paris, Brussels and Hong Kong, that serves the needs of its wide range of member firms in global capital markets, currently comprising 630 members located in 71 jurisdictions. Members includes all types of issuers, intermediaries, investors, market infrastructure providers and law firms.

A global financial community with a real voice in shaping the regulatory environment for the international capital market.

Members have access to the ICMA standard documentation and market conventions which have been the pillars of the international debt market for over 50 years, performing a crucial central role in the market by providing industry-driven standards and recommendations for issuance, trading and settlement in international fixed income and related instruments, alongside product standards and guidelines for sustainable finance.

ICMA liaises closely with regulatory and governmental authorities, both at the national and supranational level, to help to ensure that financial regulation promotes the efficiency and cost effectiveness of the capital market.

ICMA also provides extensive information and networking opportunities along with a training and education to serve its members and the wider industry, supporting its role to develop the international capital markets.

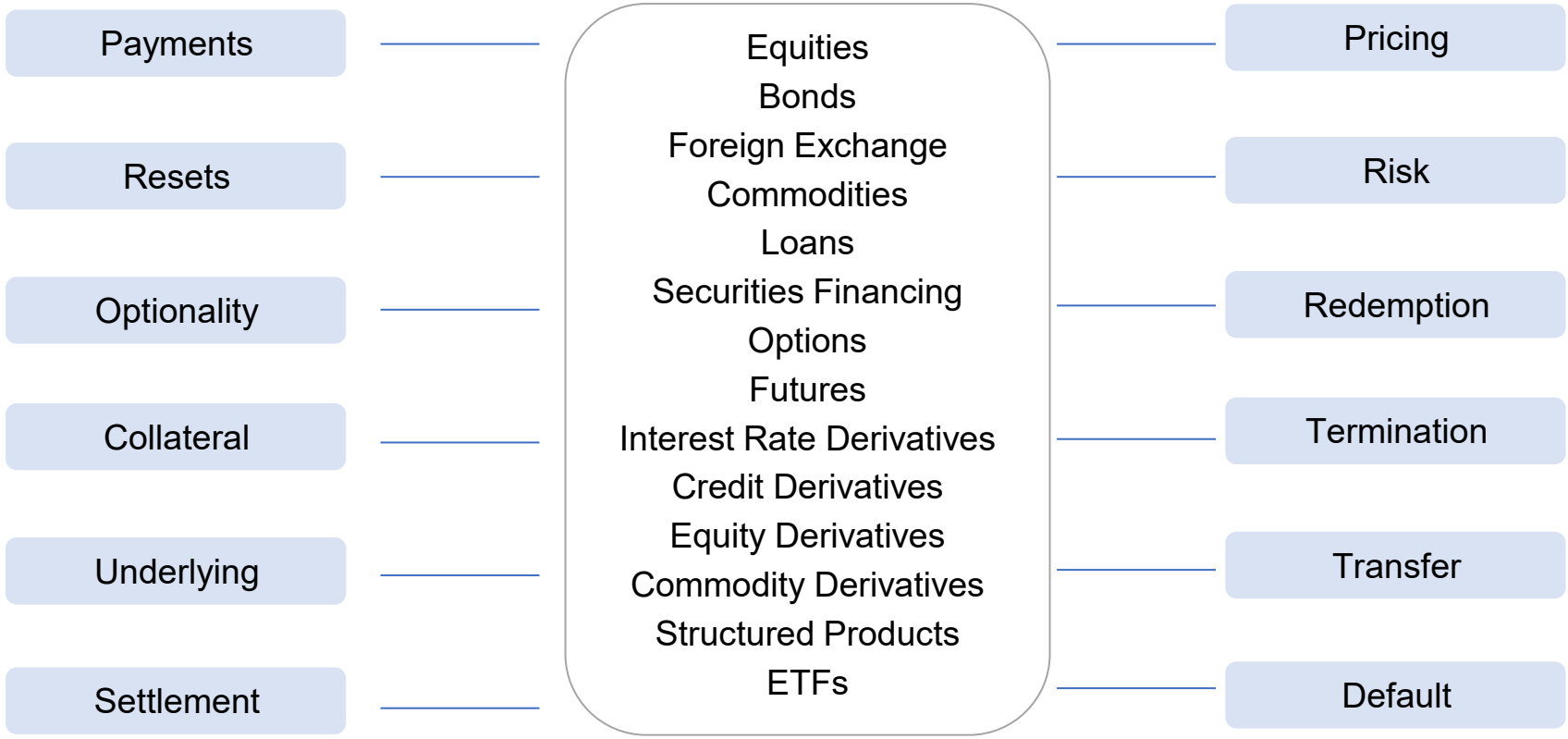
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Agenda

- ❑ Complexities of Financial Products and Services
- ❑ CDM Standardizes Financial Products and Events
- ❑ CDM Dynamic Process Binding
- ❑ Coupon Payment Example with Mandates

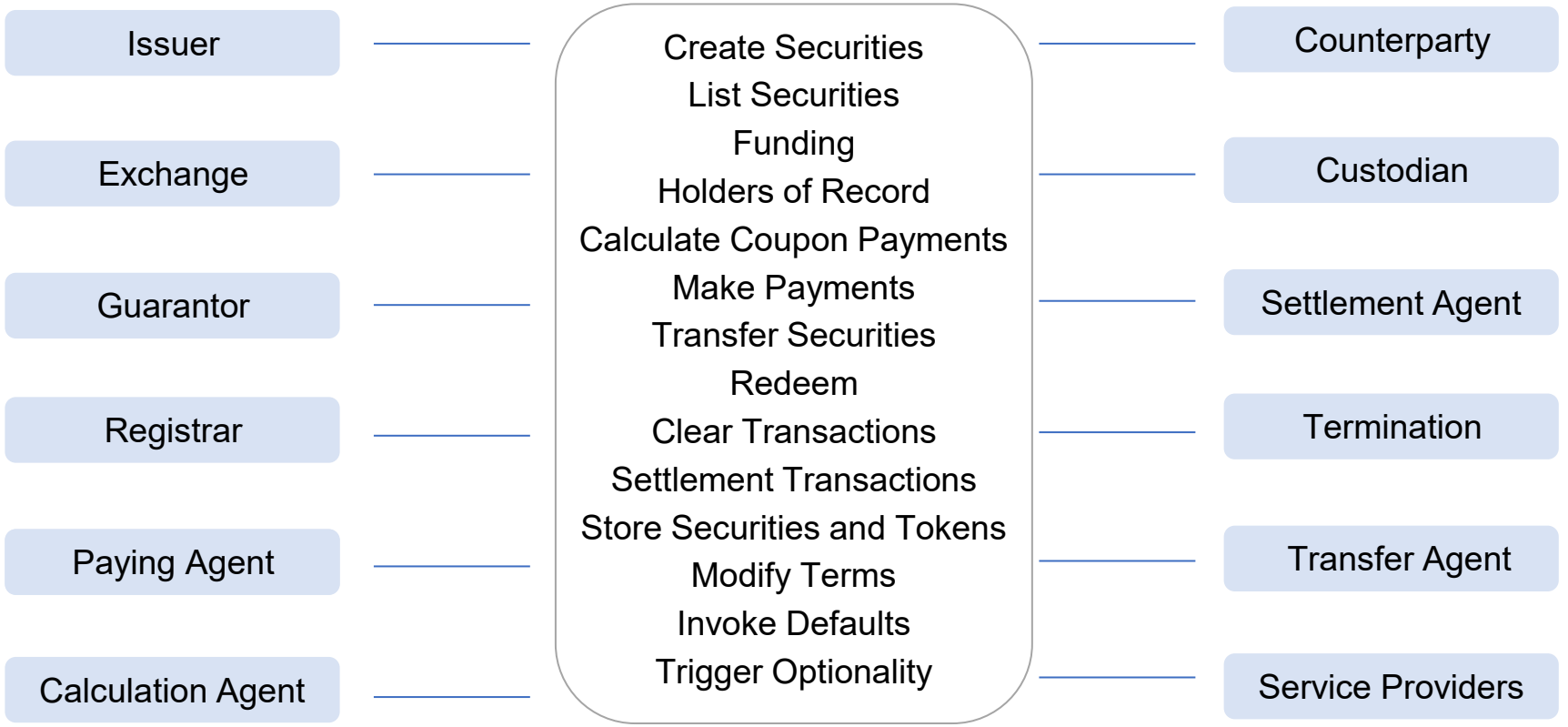
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Financial Products Have Complex Data Requirements



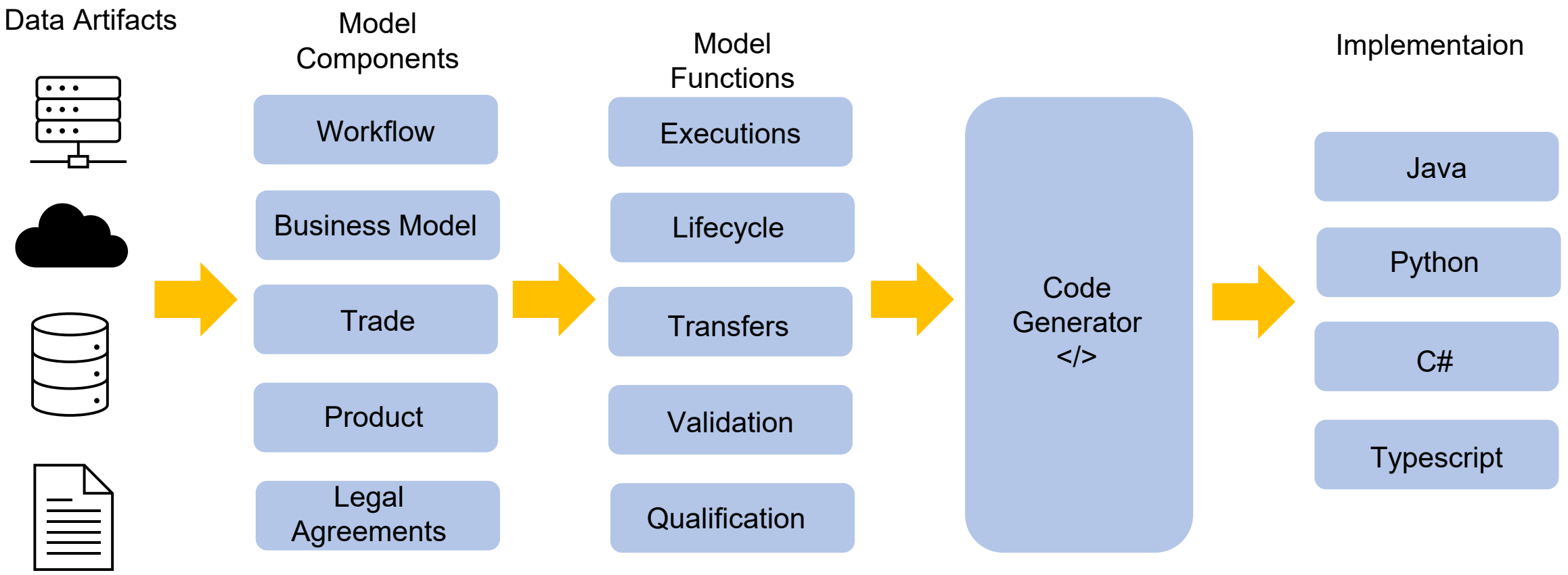
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Financial Products Also Have Complex Relationships and Authorizations with Participants



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From Model to Implementation



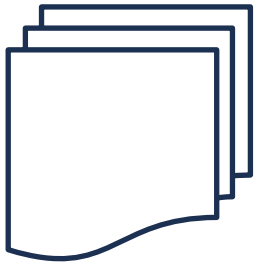
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CDM Implements Dynamic Process Binding

CDM
COMMON DOMAIN MODEL

- The CDM enables financial lifecycle processes to be dynamically bound to on-chain and off-chain services, without embedding the business process in a particular smart contract or platform.

Lifecycle Instructions



Decompose Instructions into Primitive Events

- Execution
- Terms Change
- Party Change
- Quantity Change
- Reset
- Execution

Assemble Objects into Executable Process and Link CDM Objects to Web3 and Smart Contact Services

- CDM Runtime Class
  - CDM Products
  - Data Linking
  - Event Methods

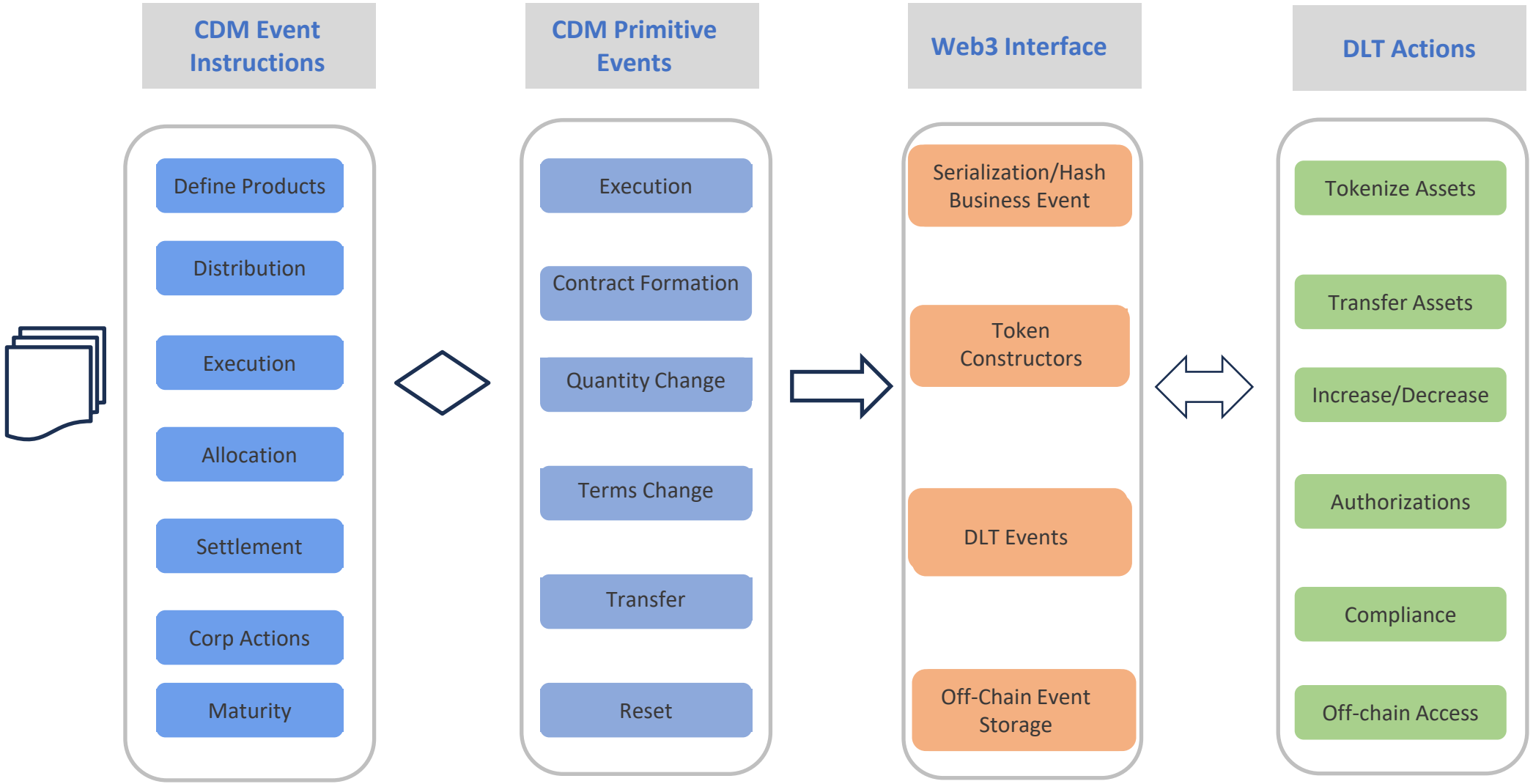
Smart Contracts Extend CDM services to on-chain events and state changes

- Deploy
- Mandates
- Event Triggers
- Off-chain data and services
- On-Chain Record

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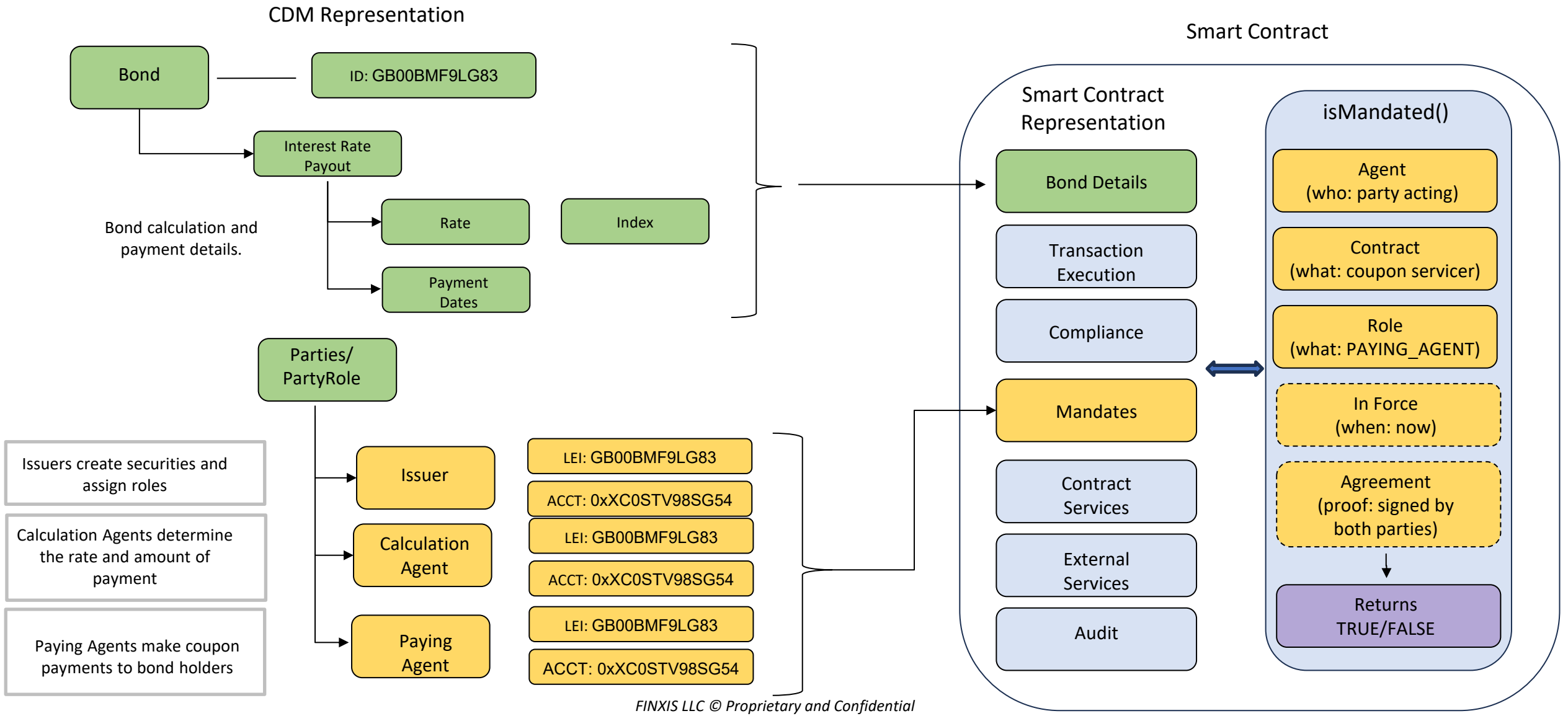
CDM Implements Instruction-Driven Events

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Example: CDM Coupon Payment Mandates

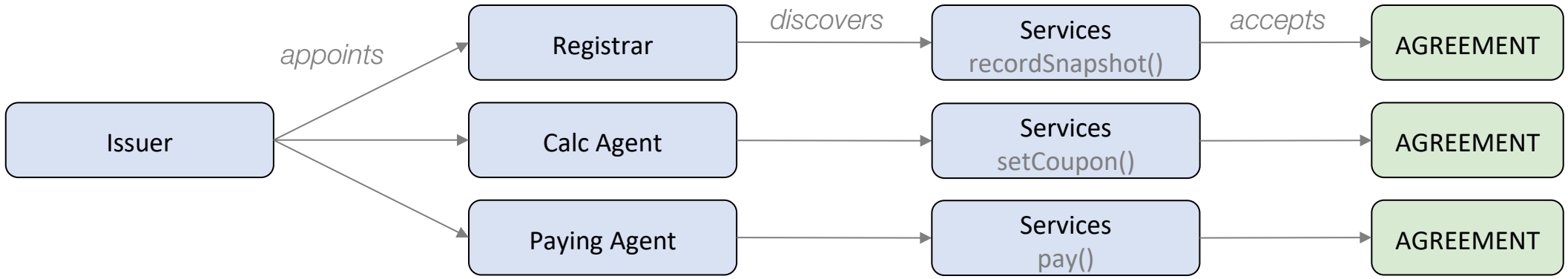


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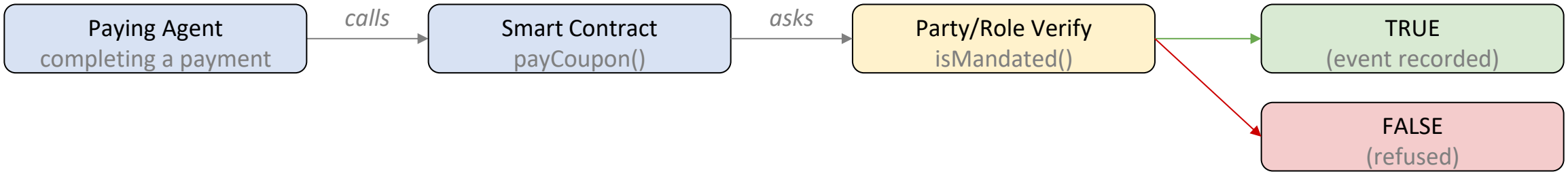
Mandates: set up once, checked every time

CDM
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SET UP (once): service providers discover the services they're appointed to, then accept the mandate



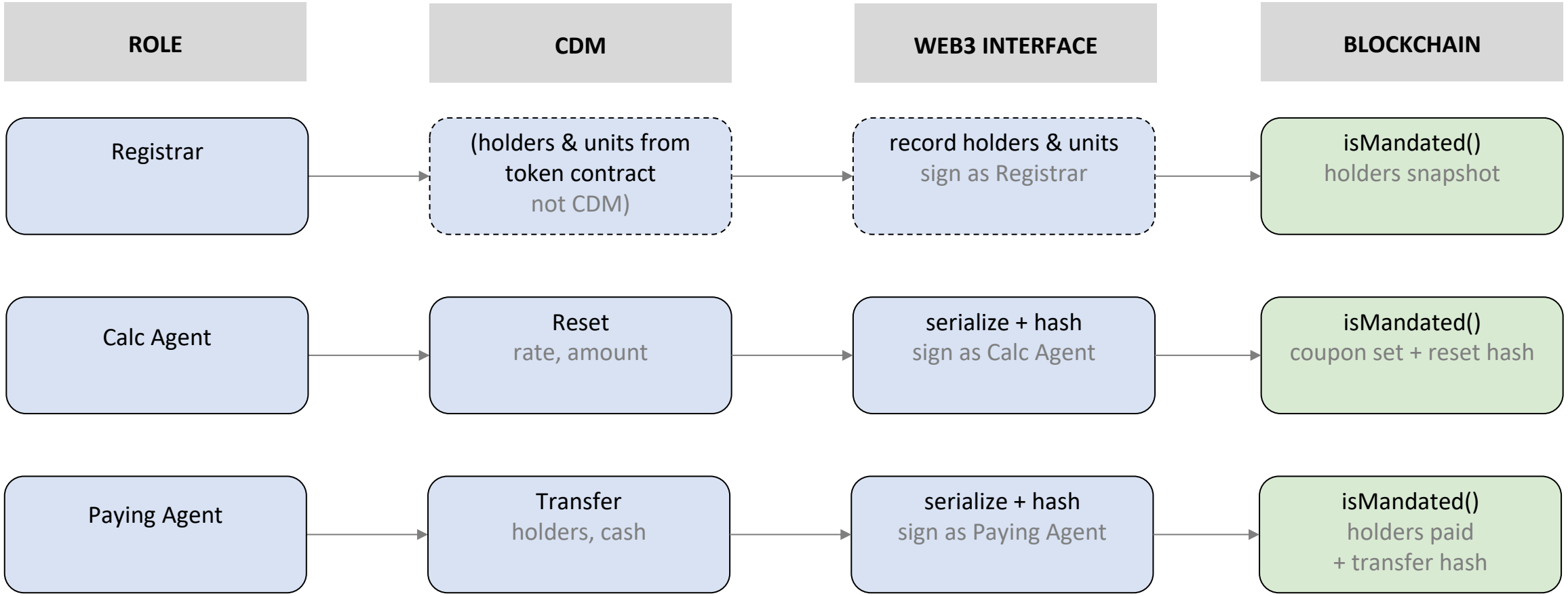
EVERY ACTION



CDM models the agreement. The chain enforces it. Mandates connect the two.

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Mandate Verification

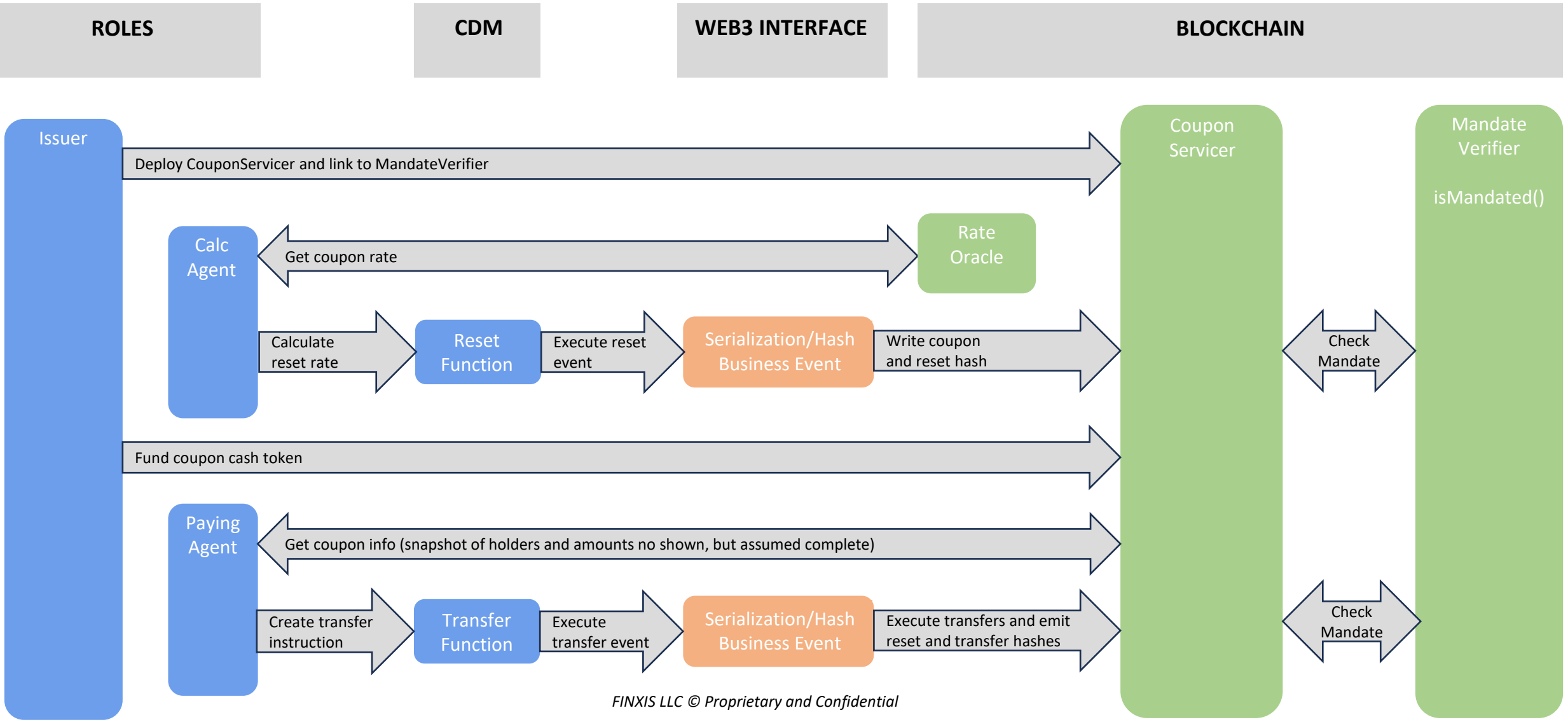


CDM runs the business event. The smart contract checks, enforces, and records.

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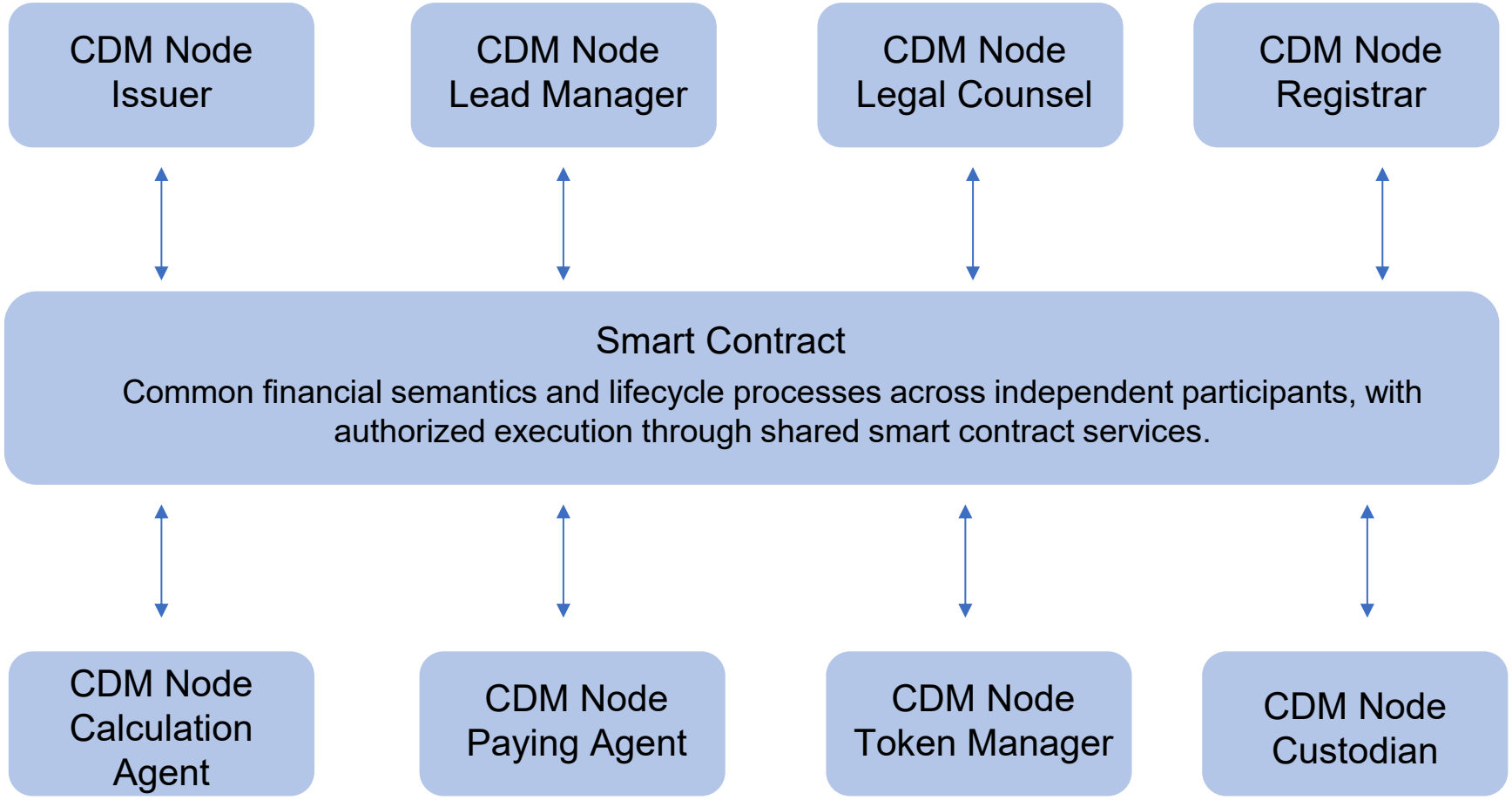
Coupon Calculation and Payment Flow

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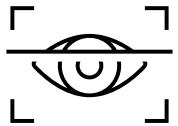
CDM Enables Role Based Nodes and Services



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CDM Enables Platform-Independent Financial Processing

- Define the financial process once. Bind it to the appropriate execution services. Operate across on-chain and off-chain environments.



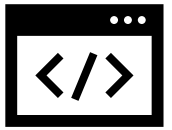
Consistent Transaction Identity

CDM Events and Mandates are integrated through dynamic process binding



Synchronized Lifecycle Events

Off-chain services and on-chain services work as one though the contracts services.



Common Business Semantics

The CDM resolves semantic differences across products, parties and lifecycle events.

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Open Source – Free to Use

CDM
COMMON DOMAIN MODEL

❑ CDM Plugin:CDM Plugins:https://github.com/finxisadmin

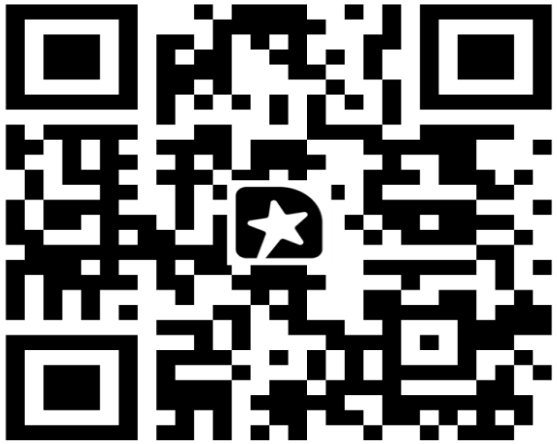
- cdm-web3-plugin
- cdm-plugin-cmta
- cdm-plugin-3643
- cdm-plugin-1400

❑ OpenZeppelin: https://github.com/amlevy327/osff-cdm-mandates-demo

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CDM
COMMON DOMAIN MODEL

Thank You



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Bios

- Tom Healey is a financial services consultant with over 20 years of experience as a senior executive and consultant to banks, fintech startups and private equity firms. Tom was the global head of repo trading system products at Bloomberg LP, served as Director of treasury platforms at Deutsche Bank and was a founding member of a fintech incubator. He recently launched FINXIS LLC, a research and consulting firm in New York.

- Andrew Levy is Head of Standards at OpenZeppelin, where he works with industry standards groups and initiatives bringing blockchain into traditional financial infrastructure. Before this role, he led product for OpenZeppelin's Smart Accounts and Real World Asset Wizard, which generates ERC-3643 compliant tokens on Stellar. Prior to OpenZeppelin, Andrew was a product manager at ChainSafe, working on the Web3.js developer library and Lodestar Ethereum consensus client.

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