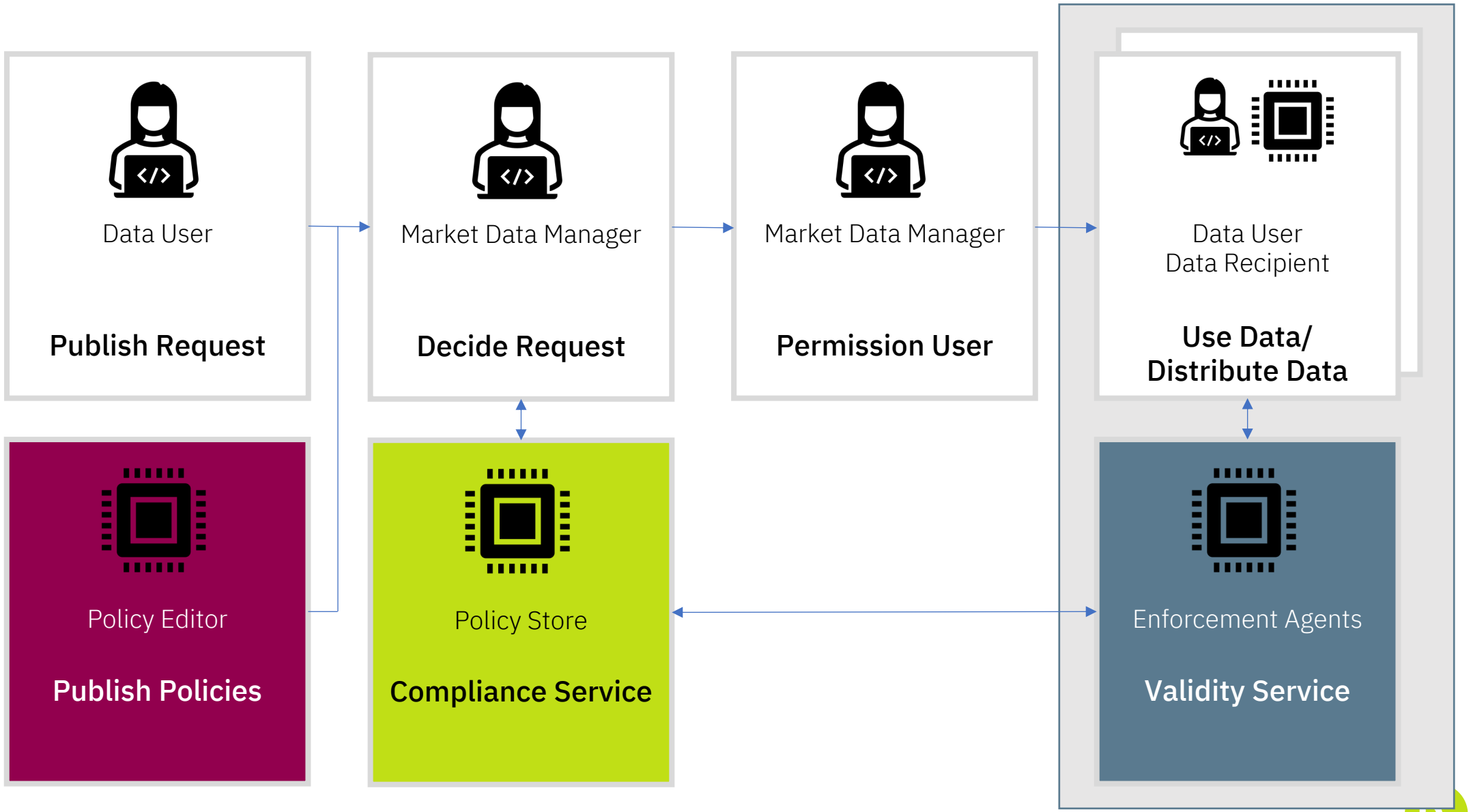
SUPPORTED FLOW



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SUPPLY CHAIN ARTIFACTS

Interoperable across implementations

Request

Data Consumers

Models data use cases*

Offer

Data Providers

Service Providers

Models data products**

Agreement

Data Providers
+
Data Consumers

Service Providers

Models rights assignments

* Specifically, the rights required to satisfy a data use case

** Specifically, the rights offered by a data product

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REDISTRIBUTION/1 - NEED TO KNOW

To decide whether a transfer of data is valid, we first need to know:

1. The identity of the user wishing to execute the distribution permission
2. The identity of the Recipient
3. The identity of the Asset

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REDISTRIBUTION/2 – THE REQUEST

This is expressed in the following REQUEST from the REDISTRIBUTION AGENT to the VALIDITY SERVICE:

```
{
    "@context": { ... },
    "@id": "https:www.example.com/request/1",
    "@type": "Request",
    "permission": {
        "@type": "Permission",
        "action": {
            "@type": "Distribute",
            "recipient": {
                "@id": "lei:549300LRIF3NWCU26A80", # Blackrock Inc
            }
        },
        "target": {
            "@id": "https://www.example.com/assets/1234",
        },
        "user": {
            "@id": "https:www.example.com/user/843033",
        }
    }
}
```

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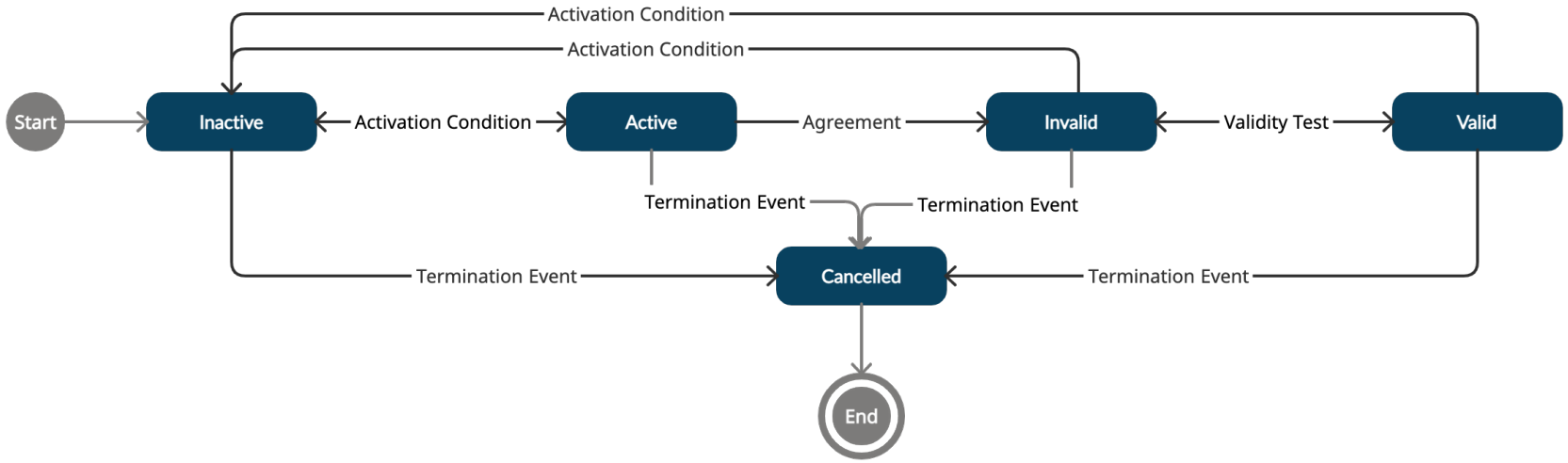
REDISTRIBUTION/3 – THE COMPLIANCE TEST

The Validity Service then requests compliant permissions from the Compliance Service.

Let’s assume there are two:

1. A Distribution permission P1, without any duties or constraints
2. A Distribution permission P2, with a Consent and Disclaimer duty

The Validity Service must now check for **Valid** permissions:



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REDISTRIBUTION/4 – THE VALIDITY TEST

A Validity Test checks that all the Duties associated with a Permission are **Fulfilled** and all Constraints **Satisfied**.

In the case of P1, the test is trivial. With no Duties or Constraints, the Permission is **Valid**. The Validation Service can return an Agreement containing the valid permission.

```
{
    "@context": { ... },
    "@graph": [{
        "@id": "https:www.example.com/request/1",
        "@type": "Agreement",
        "permission": {
            "@id": ”cme:P1",
            "@type": "@id"
        }
    }, {
        "@id": "cme:P1",
        "@type": "Permission",
        "deonticState": "Valid",
    }]
}
```

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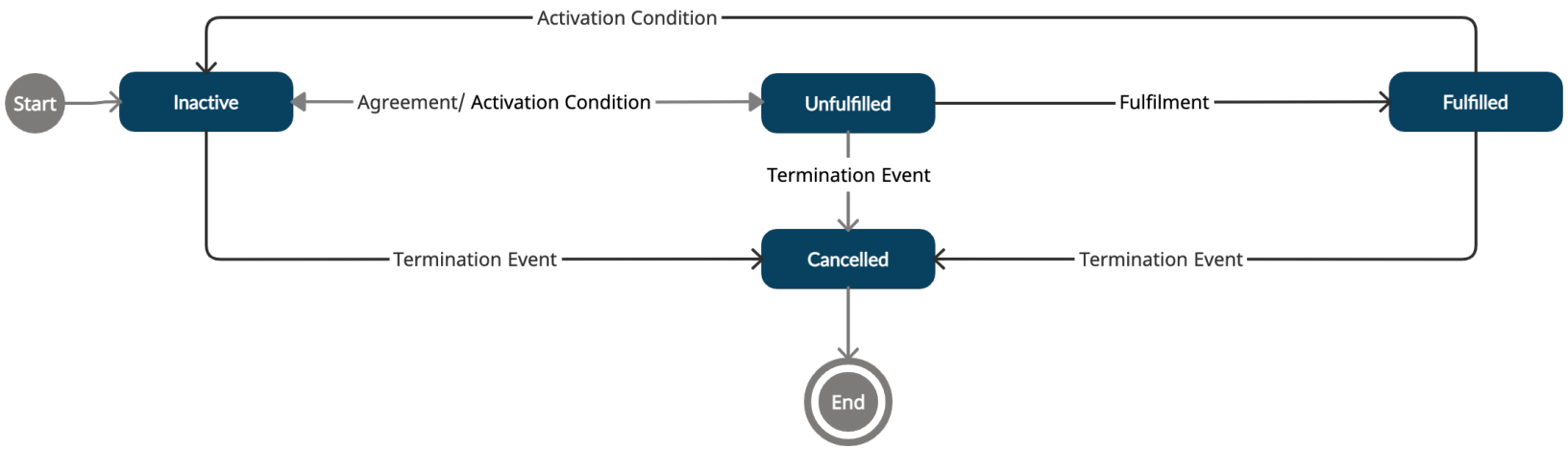
REDISTRIBUTION/5 – THE VALIDITY TEST

For P2, we must check that the Consent and Disclaimer Duties are NOT **Unfulfilled**.



The Validity Service does so by appealing to Agents.

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REDISTRIBUTION/6 – AGENT REGISTRATION

First, Agents must register their capabilities with the Validation Service.

Agent AI fulfils Disclaimer Duties

```
{
    "@context": { ... },
    "@graph": [{
        "@id": "https:www.example.com/agent/A1",
        "@type": "Agent",
        "enforce": {
            "@type": "Duty",
            "title": "Attach Disclaimer",
            "action": {
                "@type": "Attach"
            },
            "target": {
                "@type": "Disclaimer"
            }
     }]
 }
```

Agent A2 fulfils Consent Duties

```
{
    "@context": { ... },
    "@graph": [{
        "@id": "https:www.example.com/agent/A2",
        "@type": "Agent",
        "enforce": {
            "@type": "Duty",
            "title": ”Consent",
            "action": {
                "@type": ”Consent"
            },
            "target": {
                "@type": "ExternalParty",
                "role": {
                    "@type": "Consumer"
                }
            }
     }]
 }
```

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Then the Validity Service can then ask the relevant agents to fulfil the Duties. Again, it uses a Request policy. So to request fulfilment of a Disclaimer Duty:

```
{
    "@context": { ... },
    "@id": "https:www.example.com/request/2",
    "@type": "Request",
    "duty": {
        "@type": "Duty", ”
        @id": "D1",
        "deontic_state": "Unfulfilled",
        "action": {
            "@type": "Attach",
        },
        "target": {
            "@type": "Disclaimer",
            "wording": "CME Group Market Data is used under license as ..."
        }
    }
}
```

The Agent fulfils the Duty and then confirms this with the Validity Service:

```
{
    "@context": { ... },
    "@id": "https:www.example.com/agreement/2",
    "@type": "Agreement",
    "duty": {
        "@type": "Duty",
        "@id": "D1",
        "deontic_state": "Fulfilled"
    }
}
```