

The Dispute Resolution Oracle: Foundations of a Decentralised Jurisdiction

White Paper

DIFC Courts

Supported by: Virtual Assets Regulatory Authority (VARA)

Dubai Multi Commodities Centre (DMCC) · Innovation City Ras Al Khaimah

Technology advisory by Deca4 Advisory

Peer reviewers: ADI Foundation · Ava Labs, Inc. · Ethereum Institutional · Kleros · Polygon Labs

November 2026

Table of Contents

1. Executive Summary 4
2. Context: The Need for Jurisdictional Infrastructure in DLT 5
    2.1 What a Decentralised Jurisdiction Is (and What It Is Not) 5
    2.2 Growth of DLT Enabled Transactions 6
    2.3 Structural Limits of Code Based Enforcement 6
    2.4 Increasing Relevance of Cross Border Disputes 7
    2.5 The Missing Layer: No Jurisdiction Is Built for Decentralised Entities 7
3. DLT Use Cases and Jurisdictional Scenarios 7
    3.1 Smart Contracts 8
    3.2 Decentralised Autonomous Organisations 8
    3.3 Tokenised Real World Assets 8
    3.4 Platforms, Custodians and Intermediaries 9
    3.5 Cross Border and Jurisdictional Disputes 9
4. Existing Approaches and Comparative Overview 10
    4.1 On Chain Mechanisms 10
    4.2 Off Chain Mechanisms 11
    4.3 Comparative Jurisdictional Overview 12
5. The DIFC as the Anchor Institution 14
    5.1 Origins and Structure 15
    5.2 The DIFC Courts: Judicial Innovation 15
    5.3 The Coordinated Role of All Three Bodies 16
6. The Decentralised Jurisdiction: Concept and Scope 16
    6.1 How a Decentralised Jurisdiction Is Structured 16
    6.2 Why Dispute Resolution Is the Foundation 17
    6.3 The DLT Ecosystem in Context 18
    6.4 How Entities Opt In to the Decentralised Jurisdiction 18
7. Dispute Resolution in the Decentralised Jurisdiction 19
    7.1 Access: Native Entities and External Participants 19
    7.2 The Dispute Resolution Oracle and the Life of a Dispute 20
    7.3 Evidence: the On Chain Record and Off Chain Submission 22
    7.4 Resolution by a Neutral Party 23
    7.5 Enforcement: Freezing, Instruction and Execution 24
8. An Agent Native Court: Dispute Resolution for the Machine Economy 26
    8.1 Why Agentic Commerce Needs a Forum 26
    8.2 Proving What the Principal Authorised 26
    8.3 Legal Context Before the Transaction, the Oracle After It 27
    8.4 Liability: Questions the Forum Will Answer Case by Case 27
9. Governance and Operating Model 28
    9.1 Institutional Governance 28
    9.2 The Enforcement Authority 29

9.3 Stakeholders and Expertise 30
9.4 Due Process and Procedural Safeguards 30
10. Market and Policy Implications 30
10.1 Institutional Adoption 31
10.2 A Forum for Mid Value Disputes 31
10.3 Regulatory Alignment 31
10.4 Cross Border Commerce 31
11. Requirements for Implementation 32
11.1 Legal Framework 32
11.2 Technical Integration 32
11.3 International Cooperation 33
12. Phased Implementation Roadmap 33
12.1 Phase I: White Paper and Concept Validation 34
12.2 Phase II: Pilots 34
12.3 Phase III: Production Go Live 35
12.4 Phase IV: Regulatory and Institutional Integration 35
12.5 Phase V: International Scaling 35
13. Conclusion 35
Acknowledgements 36
Project Team 36
Peer Reviewers and Contributors 37
Points of Contact 37
Bibliography 38
Legislation, Regulation and International Instruments 38
Case Law 38
Institutional Reports and Publications 39
Protocol Documentation and Technical Standards 40
News and Industry Sources 40

1. Executive Summary

The DIFC Courts propose a Decentralised Jurisdiction: a legal framework built for decentralised systems, anchored in the Dubai International Financial Centre (the DIFC). The Decentralised Jurisdiction is the initiative. Its first project is the Dispute Resolution Oracle (the DRO, or the oracle): the connection through which disputes arising on distributed ledgers reach a real neutral forum, and through which that forum's decisions return to the ledger to be enforced against the asset itself. The larger ambition is a standard: an open model of designation, decision and enforcement that any qualified forum can operate and any jurisdiction can adopt, with the DIFC as its first and reference implementation.

The need is clear. Activity worth trillions of US dollars settles on distributed ledgers each year with no reliable connection to legal authority. When arrangements fail, recovery depends on negotiation with attackers, the goodwill of sponsors or the discretion of intermediaries, and courts that decide such disputes often cannot reach the assets directly, and depend on whoever holds the controls. Distributed ledger technology (DLT) has built a sophisticated settlement layer. What is still missing is a reliable way to carry a forum's decision onto the ledger and enforce it against the asset.

The purpose of this paper is simple. Courts already rule on digital assets. What they do not yet have is a standard route that carries their decisions directly onto the ledger, without depending on a service provider to act. The Dispute Resolution Oracle provides that route. It is opt in. The DIFC Courts act only where a use case has chosen them in advance, and the oracle cannot freeze or move any asset on its own: it acts only on an asset, escrow or protocol that signed up to it before the dispute arose.

The DRO connects participating blockchain applications with designated dispute resolution providers. It supports dispute notification, authorised asset preservation, verified enforcement instructions and auditable execution, while the dispute itself is resolved off chain: a judge, an arbitrator or an expert decides it, applying law to evidence, or a mediator helps the parties settle it. A dispute passes through five steps:

1. **Designation.** Before any dispute exists, a use case adopts the oracle, anchors its governing agreement on chain and names its forum.
2. **Raising.** A party raises a dispute off chain and privately with the named forum. The forum reviews the claim and, only if it finds cause, orders the disputed asset, and only that asset, frozen through the oracle, under safeguards against abuse.
3. **Review.** No freeze happens without the forum's review. The matter then follows any escalation path the designation sets.
4. **Resolution.** The forum decides the dispute off chain, or the parties settle it.
5. **Enforcement.** The decision returns through the oracle, is verified and authorised (its signatures, scope and declared form are checked) and is executed against the asset.

Designation costs nothing and locks up no assets while no dispute exists. Once a decision is made, the instruction executes on chain under the forum's own security policy, for example several signatures held by different officers. A register of qualified providers governs whose decisions the oracle will execute.

The limits are part of the design. Designation is made by the use case, at the level of an application (an escrow, a platform, a registry) or of an asset's own smart contract, and never by the chain. The forum's authority reaches the designated contract and the assets it holds, and never the underlying network, its

validators or unaffiliated developers. The oracle cannot reach assets that left the use case before a freeze, parties outside the designation, or immutable code, and it gives way to insolvency proceedings. It serves identified parties in designated arrangements, not unidentified attackers (Section 7.2).

The DIFC is the natural anchor. Since 2011, the DIFC Courts have been able to accept cases from anywhere in the world, subject to the parties' agreement. That agreement is the act designation performs. Whether a digital asset is property is answered in the DIFC by statute and by the DIFC Courts. The Digital Assets Law, DIFC Law No. 2 of 2024, provides that a digital asset is intangible property and in 2024, the DIFC Court of Appeal held at common law that crypto assets such as Bitcoin are property. The Digital Economy Court Division was established in 2021, and the DIFC Authority and the Dubai Financial Services Authority (the DFSA) complete the institutional setting. The aspiration is a shared framework for recognising on chain enforcement across jurisdictions, of the kind the New York Convention provides for arbitration.

2. Context: The Need for Jurisdictional Infrastructure in DLT

This section explains what a decentralised jurisdiction is, why the on chain economy needs one, and why no existing jurisdiction yet provides it.

2.1 What a Decentralised Jurisdiction Is (and What It Is Not)

A Decentralised Jurisdiction is a legal jurisdiction built for decentralised entities and for activity native to distributed ledgers. Courts, registries and enforcement all assume an intermediary, such as a bank, a registrar or a custodian, who holds the asset and answers to the law. On a public blockchain, often no one does. The jurisdiction serves decentralised systems, but resolving a dispute is never decentralised. Disputes are decided off chain by a real, neutral forum applying law to evidence. Only enforcement of the outcome moves on chain.

It is a proposed legal framework, administered by existing institutions, with enforcement that reaches the assets in question. It is not a virtual courtroom, and it does not replace the rule of law with self executing code.

The DIFC already has the three institutional pillars such a jurisdiction requires: the DIFC Authority administers the Centre, the DFSA regulates financial services, and the DIFC Courts resolve disputes. This paper sets out how that infrastructure can be extended to decentralised entities and DLT native activity.

2.2 Growth of DLT Enabled Transactions

DLT activity has grown faster than the legal systems that govern it. The global cryptocurrency market capitalisation peaked at approximately 4.4 trillion US dollars in October 2025.[1] Decentralised finance (DeFi) protocols held approximately 116 billion US dollars at the end of 2024.[2] Tokenised real world assets stood at approximately 39 billion US dollars in October 2026, excluding stablecoins, and are projected to reach between 2 trillion and 16 trillion US dollars by 2030.[3] Stablecoin transfers reached approximately 27.6 trillion US dollars in 2024, or about 8 trillion US dollars excluding automated activity, on an estimate from the same data.[4,5] Decentralised autonomous organisations (DAOs) manage billions of dollars in treasury assets.[6]

These figures describe the activity at stake. The oracle acts only on assets held in designated arrangements, a smaller share that grows as arrangements designate. The absence of legal infrastructure does not prevent the activity; it means that when disputes arise, the parties have no adequate forum. Section 7.5 sets out what direct enforcement cannot reach.

2.3 Structural Limits of Code Based Enforcement

"Code is law" was the founding idea of the smart contract movement: self executing code would remove the need for courts.[7] It has proved insufficient. Code is execution; law is adjudication. A smart contract does what its code says, whether or not that is what the parties intended. It cannot tell an ambiguous term from a clear one, allow for fraud or changed circumstances, or correct an unjust result.

The record shows the gap. In 2016 a flaw in the code of The DAO, a decentralised autonomous organisation built as an application, allowed an attacker to drain approximately 60 million US dollars. The underlying network executed correctly; the outcome was reversed by a one off hard fork, which was contested and has not been repeated on that network.[8] The lesson is that smart contracts need remedies at the application level, which is what the oracle provides. Oracle failures, flash loan attacks and bridge exploits, including Ronin (620 million US dollars)[9] and Wormhole (320 million US dollars),[10] have produced outcomes no party intended. These examples show why enforcement matters. They do not suggest the oracle would have recovered those losses: it serves identified parties in designated arrangements (Section 7.2).

1. CoinGecko, 2025 Annual Crypto Industry Report: peak market capitalisation of about 4.4 trillion US dollars, October 2025. https://www.coingecko.com/research/publications.
2. DefiLlama, Total Value Locked, value at 31 December 2024.
3. Projections from BCG and ADDX (16 trillion US dollars, September 2022), McKinsey (2 to 4 trillion US dollars, "From ripples to waves: The transformational power of tokenizing assets", 20 June 2024) and ARK Invest (11 trillion US dollars, Big Ideas 2026, January 2026). Current value per RWA.xyz, distributed asset value excluding stablecoins, 11 October 2026.
4. CEX.io, Stablecoin Landscape Report, January 2025. Corroborated by Visa Onchain Analytics Dashboard.
5. CEX.io estimates that about 70 per cent of 2024 stablecoin transfer volume was automated or bot driven. The figure of about 8 trillion US dollars excluding automated activity is the authors' estimate from that share; CEX.io does not publish an adjusted total.
6. DeepDAO, DAO Treasury Analytics, accessed March 2026.
7. The phrase "code is law", coined by Lessig in a different sense (code as regulation), became a slogan of the smart contract movement. Lessig, L., Code and Other Laws of Cyberspace, Basic Books, 1999.
8. Siegel, D., "Understanding the DAO Attack", CoinDesk, June 2016.
9. US Department of the Treasury, OFAC Designation of Lazarus Group, April 2022.
10. Wormhole, Post-Mortem Report, February 2022.

Losses have been resolved outside any legal process. Protocols have negotiated with attackers for partial returns. Sponsors have absorbed losses as a commercial choice. Issuers and exchanges have frozen assets with no hearing, no reasons and no appeal. Insolvency has returned value slowly. Each has sometimes worked. None is a system of justice, and none was available as of right.

The result is a choice no market should face. Participants can operate on chain with global reach and no legal recourse, or submit to courts and regulators that may not understand the technology and move at a different pace. DAOs with contributors in many countries have no home jurisdiction, and most legal systems do not recognise their on chain votes as corporate governance. Without legal clarity on rights and remedies, banks, asset managers and insurers stay at the perimeter.

2.4 Increasing Relevance of Cross Border Disputes

DLT is cross border by design. A smart contract may be written in Germany, funded from Singapore, hold assets tokenised in the United Arab Emirates (the UAE) and be disputed by parties in the United Kingdom, with no national court holding clear jurisdiction. The Hague Judgments and Choice of Court Conventions help with foreign judgments and chosen courts,[11,12] but neither was designed for pseudonymous parties, on chain assets or disputes arising from code execution. The UAE is not a party to the Hague Judgments Convention, but parties remain free to choose their governing law and forum.

2.5 The Missing Layer: No Jurisdiction Is Built for Decentralised Entities

No jurisdiction has assembled a complete legal ecosystem for decentralised entities. Each has built part of it. In the European Union (EU), the Markets in Crypto-Assets Regulation (MiCA) regulates service providers but not dispute resolution.[13] Wyoming recognises DAOs as legal entities, and other jurisdictions give legal personality to blockchain foundations.[14] Section 4.3 records these achievements.

The DIFC can close the gap by bringing together the DIFC Authority's administration of the Centre, the DFSA's regulation of financial services and the dispute resolution of the DIFC Courts. The model is opt in: participants bring their disputes within the framework by designation, without relocating or restructuring. Autonomous artificial intelligence (AI) agents add a further dimension, taken up in Section 8.

3. DLT Use Cases and Jurisdictional Scenarios

This section describes the main use cases, the jurisdictional gap each creates, and what the Decentralised Jurisdiction offers. The framework is best suited to arrangements where the asset stays within the application: escrow, bonds, guarantees and short term financing. The initial focus is on escrow and non pooled assets. Freezing assets held in shared pools can affect third parties, and those questions are left for the design workshop (Section 12.1).

11. Hague Conference on Private International Law, Convention on the Recognition and Enforcement of Foreign Judgments, 2 July 2019.
12. Hague Conference on Private International Law, Convention on Choice of Court Agreements, 30 June 2005.
13. Regulation (EU) 2023/1114 of the European Parliament and of the Council, Markets in Crypto-Assets Regulation, 31 May 2023.
14. Wyoming Senate File SF0038, signed 21 April 2021, effective 1 July 2021.

3.1 Smart Contracts

Smart contracts execute their coded instructions automatically, and DeFi protocols held about 116 billion US dollars at the end of 2024.[15] When a contract misfires, through an oracle failure or a change in circumstances the code cannot recognise, it may be unclear which court has jurisdiction, and an off chain order reaches on chain execution only through whoever holds the controls. The Decentralised Jurisdiction addresses both. Parties embed the oracle standard in the contract at deployment and name the DIFC Courts, or another registered forum, as the forum whose decision the contract will enforce.

3.2 Decentralised Autonomous Organisations

DAOs coordinate thousands of participants through on chain voting, and the largest manage treasuries worth hundreds of millions to billions of dollars.[16] Most have no legal personality: they cannot own property, contract, or sue and be sued. A DAO can designate a forum for its governance disputes today under Section 6.4. Registration of decentralised entities under the DIFC Authority, for example as a registered DAO with enforceable governance, illustrates what the wider jurisdiction could offer in future. No regime for registering a DAO exists in the DIFC today; the example is conceptual and is not part of this proposal.

3.3 Tokenised Real World Assets

Tokenised real world assets are the most significant near term institutional use of DLT. BlackRock's BUIDL fund tokenised US Treasury bills in 2024 and passed 500 million US dollars within months,[17,18] and Project Guardian, led by the Monetary Authority of Singapore, involves twenty-eight financial institutions alongside industry associations and policymakers.[19] A tokenised asset lives in two places at once: the token on chain, and the underlying right in a land register, a company register or a contract. Those rights can only be enforced through institutions with authority over the underlying asset.[20]

Dubai is building this infrastructure. The Dubai PropTech Hub, an initiative with the Dubai Land Department (the DLD), counts tokenisation among the investment use cases in PropTech 2033.[21] The pilot phase of the DLD's Real Estate Tokenisation Project, launched with the Virtual Assets Regulatory Authority (VARA) in March 2025, projects tokenised real estate reaching AED 60 billion by 2033.[22] The DFSA's Tokenisation Regulatory Sandbox completes the picture.[23]

The lead example is off plan property. A development sold through a tokenised offering places many small cross border investors behind a milestone escrow that pays the developer as construction stages are certified. If the developer nears insolvency and the certifier proves to have ties to it, the investors must

15. DefiLlama, Total Value Locked, value at 31 December 2024.
16. DeepDAO, DAO Treasury Analytics, accessed March 2026.
17. BlackRock, "BlackRock Launches Its First Tokenized Fund, BUIDL, on the Ethereum Network", press release, 20 March 2024.
18. Cointelegraph, "BlackRock's BUIDL reaches $500M AUM", July 2024.
19. Monetary Authority of Singapore, Project Guardian, participants list, November 2025.
20. DFSA, Rulebook amendments for Investment Tokens, 2021; Crypto Token regime, 2022, as amended with effect from 12 January 2026.
21. Dubai PropTech Hub, PropTech 2033, white paper, 11 March 2026.
22. Dubai Land Department, "Dubai Land Department Launches Pilot Phase of the Real Estate Tokenisation Project", press release, 19 March 2025. https://dubailand.gov.ae/en/news-media/dubai-land-department-launches-pilot-phase-of-the-real-estate-tokenisation-project
23. DFSA, "Tokenisation Regulatory Sandbox", launched March 2025, https://www.dfsa.ae/innovation/tokenisation-regulatory-sandbox.

decide whether the remaining funds are released or returned, with stakes too small to litigate and no forum agreed in advance to examine the certification or control the funds. An on chain escrow of this kind would sit alongside Dubai's existing escrow account regime for off plan sales; how the two fit together is a question for the pilot.

Four further scenarios follow the same pattern:

1. **Property governance.** Title split across hundreds of token holders turns a landlord's decisions into votes. When a majority linked to the sponsor approves a sale to a related party that the minority contests, most legal systems do not recognise the vote as corporate governance.
2. **Tokenised share pledges.** A lender holds tokenised shares as collateral. On default, moving them under a court order depends on whoever controls the token, while the borrower disputes notice and the timing of a cure payment.
3. **Performance bonds.** A government calls a bond held in on chain escrow, and the contractor argues the delay was the authority's fault. An automatic payout gives no review; freezing the bond through years of litigation defeats its purpose. The arrangement needs a rapid neutral decision that executes against the escrowed funds.
4. **DeFi collateral.** A lending protocol accepts tokenised real world claims as collateral. On default, the protocol moves the token instantly, but the token is only a claim. The oracle can act on the token; realising the underlying collateral still runs through conventional enforcement. Where the collateral proves bad, depositors may ask who answers for the token holder vote that admitted it.

In each case the parties are identifiable, the arrangement is documented, and the contested question is one of fact, conduct or value, decided by a neutral forum on evidence. The asset sits on chain or draws its value from something that does not. This is why the category needs a jurisdiction anchored in a real court. Section 7 sets out how such disputes are carried to a forum and back.

3.4 Platforms, Custodians and Intermediaries

Much on chain activity runs through centralised exchanges, custodians and lending platforms that hold customer assets across jurisdictions. The collapses of FTX, Terra/Luna and Three Arrows Capital left creditors across dozens of countries facing parallel insolvency proceedings.[24,25] The Decentralised Jurisdiction is aimed at disputes with platforms before insolvency: a designated forum able to read blockchain evidence and act on designated assets. Once insolvency proceedings begin, the collective process takes over, and the framework sits alongside existing insolvency regimes rather than replacing them.

3.5 Cross Border and Jurisdictional Disputes

Consider a DAO organised in Wyoming, holding its treasury on a public blockchain, with contributors in forty countries. A proposal to redirect treasury funds passes narrowly, and minority holders allege the vote was manipulated through flash loans. Under current law, it is unclear which court has jurisdiction. The

24. In re FTX Trading Ltd., Case No. 22-11068, United States Bankruptcy Court for the District of Delaware, November 2022.
25. In re Three Arrows Capital Ltd, Case No. 22-10920, United States Bankruptcy Court for the Southern District of New York (recognition of the British Virgin Islands liquidation opened on 27 June 2022); In re Terraform Labs Pte. Ltd., Case No. 24-10070, United States Bankruptcy Court for the District of Delaware (January 2024).

oracle can help only if three things are in place before the dispute: the DAO has designated a forum in advance, its treasury is held in a contract able to freeze, and the parties are identified to the forum. Designation does not require registration in the DIFC; entities registered anywhere may designate it, as international commercial parties routinely choose a leading financial centre. Disputes involving autonomous agents are taken up in Section 8.

4. Existing Approaches and Comparative Overview

This section reviews what on chain protocols (4.1) and off chain institutions (4.2) have achieved in resolving digital asset disputes, and compares the jurisdictions that have built parts of the required framework (4.3).

4.1 On Chain Mechanisms

Private organisations have built on chain dispute systems, and their results inform this design.

Kleros, a decentralised arbitration protocol, has decided hundreds of disputes, with jurors drawn from token stakers.[26] Its open standards, ERC-792 for arbitration and ERC-1497 for evidence, published as Ethereum Requests for Comments (ERCs), let any contract name its resolver at deployment: an early working example of the designation principle this paper generalises.[27] Universal Market Access (UMA) runs an optimistic oracle suited to simple factual questions; about 98 per cent of assertions resolve unchallenged, and it resolves many of Polymarket's markets.[28]

These protocols decide real cases, and show that dispute resolution can be built into blockchain applications. But their decisions do not automatically carry the legal status, recognition or enforceability of a court judgment or a qualifying arbitral award. An award produced by a protocol vote meets recognised obstacles under the New York Convention:[29]

1. The Convention requires a duly authenticated award, which assumes arbitrators' signatures a protocol vote does not produce.
2. Recognition may be refused where a party had no proper notice or opportunity to present its case, a standard that short voting windows without hearings sit uneasily against.
3. An award by protocol vote has no seat, so there is no supervisory court for the Convention to attach to.

The one publicly reported case of state enforcement makes the point. In 2021 a court in Mexico enforced an award that incorporated a Kleros jury decision, because a human arbitrator, seated in a recognised jurisdiction and signing a reasoned award, stood between the protocol and the court.[30]

26. Kleros, Protocol Documentation, https://docs.kleros.io; Kleros, Curation Court dispute figures, December 2025 update.
27. Kleros, ERC-792 (Arbitration Standard) and ERC-1497 (Evidence Standard), Ethereum Improvement Proposals.
28. UMA Protocol, "Unpacking Polymarket's Meteoric Rise", blog post, July 2024.
29. Convention on the Recognition and Enforcement of Foreign Arbitral Awards, New York, 10 June 1958, Articles IV and V(1)(b).
30. Kleros, "How to Enforce Blockchain Dispute Resolution in Court: The Kleros Case in Mexico", blog post, January 2022. A court in Mexico granted enforcement in May 2021.

Token standards also show that points of control over on chain assets already exist. ERC-3643 lets an issuer's agent freeze tokens and force transfers, ERC-7943 defines a minimal common interface for the same controls on real world asset tokens, ERC-1400 gives controllers similar powers, and stablecoin issuers freeze addresses under their own policies.[31] The DRO provides a standard way for participating blockchain applications to freeze or transfer digital assets based on decisions made by an authorised court or dispute resolution body. It can bring these existing standards and control roles under judicial supervision, and the framework could also give rise to a new standard for assets that embed the oracle directly. Compatibility with these standards is intended; the interface detail is for the design workshop (Section 12.1).

On chain mechanisms resolve disputes among willing participants but cannot compel others, order disclosure, bind third parties or reach assets held off chain. They complement institutional infrastructure rather than replace it.

4.2 Off Chain Mechanisms

Off chain institutions have begun adapting to DLT, and one came close to what this paper proposes. The UK Jurisdiction Taskforce (the UKJT) published its Digital Dispute Resolution Rules in April 2021.[32] The Rules can be written into a contract or into a digital asset itself, default to arbitration on a short timetable, and let parties stay anonymous to each other though not to the tribunal. Rule 11 empowers the tribunal to "operate, modify, sign or cancel any digital asset relevant to the dispute". In July 2025 LawtechUK formed a separate International Jurisdiction Taskforce.[33]

There are no publicly reported cases of their use known to the authors. The reasons lie on both sides:

1. **Supply.** No court or standing enforcement infrastructure stood behind the Rules, and there was no register of qualified providers.
2. **Demand.** Parties had little reason to adopt them. No counterparty or platform expected them, nothing connected them to an asset before a dispute arose, and the first adopter carried the risk of an untested mechanism.

The London Chamber of Arbitration and Mediation's Blockchain Expedited Arbitration Rules, published in 2025, go further: they provide a London seat, and so New York Convention enforceability, and enforcement on chain through a platform vault. The JAMS draft rules for smart contract disputes take a narrower route, letting the arbitrator read the contract directly but leaving enforcement to the courts. In each case the drafting exists, it remains untested, and no reported award has been located.[34,35] Adoption has not followed the drafting. An anchor institution, and a mechanism embedded in the arrangement from the start, answer both sides.

31. ERC-3643 (T-REX, permissioned tokens with agent controlled freeze and forced transfer), ERC-7943 (universal real world asset interface for freezing and forced transfer; Final) and ERC-1400 (security token standard with controller operations), Ethereum Improvement Proposals; stablecoin issuers' published freeze policies.
32. UK Jurisdiction Taskforce, Digital Dispute Resolution Rules, 22 April 2021.
33. LawtechUK, International Jurisdiction Taskforce, July 2025.
34. JAMS, Rules Governing Disputes Arising out of Smart Contracts, draft published for review and comment (undated); no reported award under the rules has been located as at the date of this paper.
35. London Chamber of Arbitration and Mediation, Blockchain Expedited Arbitration Rules, published 2025.

Off chain mechanisms have the opposite limit to on chain ones. Arbitral awards are enforceable in more than 170 states,[36] but courts do not yet have a standard route to execute on chain that does not depend on a service provider, and the arbitral schemes that aim to reach assets on chain remain untested. A court can order a transfer of cryptocurrency, but it depends on the losing party or an intermediary to comply, and where assets sit in self custodial wallets, enforcement is practically impossible. That is the gap the oracle addresses.

4.3 Comparative Jurisdictional Overview

No jurisdiction has assembled the full framework, but several have built parts of it well. Five capabilities matter, and Figure 1 compares them across jurisdictions:

1. **DLT entity recognition:** legal forms for decentralised organisations.
2. **DLT regulation:** licensing and supervision of digital asset activity.
3. **A dedicated DLT court:** a forum with explicit competence over digital asset disputes.
4. **On chain enforcement:** the ability to execute decisions against on chain assets.
5. **International enforceability:** decisions that are recognised and enforced abroad.

4.3.1 United Kingdom

The United Kingdom has a strong common law foundation for digital assets. The Property (Digital Assets etc) Act 2025 confirms that a thing is not prevented from attracting personal property rights merely because it is neither a thing in possession nor a thing in action,[37,38] and AA v Persons Unknown (2019) recognised Bitcoin as property supporting a proprietary injunction.[39] Much of the doctrine this paper relies on is English work, and the DIFC belongs to the same common law tradition.

4.3.2 Singapore

Singapore has one of the most developed conventional infrastructures in Asia: the Payment Services Act licensing regime[40] and an emergency arbitrator, whom the Singapore International Arbitration Centre seeks to appoint within 24 hours, a benchmark for interim relief.[41]

4.3.3 Switzerland

Switzerland has one of the largest DLT regulatory ecosystems. Its DLT Act amended ten federal laws and created ledger based securities with full legal equivalence,[42] and Switzerland and Liechtenstein host more than 1,700 blockchain companies.[43] Its approach of amending existing law, rather than writing a parallel code, is instructive.

---

36. UNCITRAL, Status: Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 1958), 172 parties. https://uncitral.un.org/en/texts/arbitration/conventions/foreign_arbitral_awards/status2
37. Property (Digital Assets etc) Act 2025, c. 29, Royal Assent 2 December 2025.
38. Law Commission, Digital Assets: Final Report, Law Com No. 412, 28 June 2023.
39. AA v Persons Unknown [2019] EWHC 3556 (Comm).
40. Payment Services Act 2019 (No. 2 of 2019), effective 28 January 2020.
41. Singapore International Arbitration Centre, Arbitration Rules 2025 (7th Edition), effective 1 January 2025.
42. Federal Act on the Adaptation of Federal Law to Developments in Distributed Ledger Technology, adopted September 2020, fully in force 1 August 2021; Federal Council, "Federal Council brings DLT Act fully into force and issues ordinance", press release, 18 June 2021 (the act adapts ten existing federal laws).
43. CV VC, Crypto Valley company figures, May 2025: 1,749 companies across Switzerland and Liechtenstein.

4.3.4 United States

The United States contributes entity innovation. Wyoming enacted the first DAO limited liability company statute in 2021 and the Decentralized Unincorporated Nonprofit Association Act in 2024.[44,45]

4.3.5 United Arab Emirates

The UAE regulates virtual assets through VARA across Dubai, including its free zones other than the DIFC; through the DFSA in the DIFC and the regulators of the UAE's other financial free zones; and federally through the Capital Market Authority and the Central Bank. VARA has licensed some fifty virtual asset service providers, and transaction volumes across its regulated entities reached nearly AED 2.5 trillion in 2025 up to October.[46] Federal Decree Law No. 6 of 2025 may extend the Central Bank's authority to decentralised finance,[47] and payment tokens are regulated under the Central Bank's Payment Token Services Regulation and, within the DIFC, the DFSA's Fiat Crypto Token regime.[48,49] The Digital Assets Law, DIFC Law No. 2 of 2024, provides that a digital asset is intangible property[50] and in 2024, the DIFC Court of Appeal held at common law that crypto assets such as Bitcoin are property.[51]

4.3.6 Cayman Islands

The Cayman Islands is a leading entity jurisdiction for DeFi. Its Foundation Companies Act underpins protocols, and nineteen virtual asset service providers were registered there in 2025.[52]

44. Wyoming Senate File SF0038, signed 21 April 2021, effective 1 July 2021.
45. Wyoming Decentralized Unincorporated Nonprofit Association Act, SF0050, signed 7 March 2024.
46. Dubai Media Office, 12 October 2025 (VARA transaction volumes to October 2025); press reporting of VARA's fiftieth licence, 2 July 2026.
47. UAE Federal Decree Law No. 6 of 2025, published 15 September 2025, in force 16 September 2025.
48. Central Bank of the UAE, Payment Token Services Regulation, 2024.
49. DFSA, Crypto Token regime, provisions on Fiat Crypto Tokens.
50. Digital Assets Law, DIFC Law No. 2 of 2024, Article 9. https://www.difc.com/business/laws-and-regulations/legal-database/difc-laws/digital-assets-law-difc-law-no-2-of-2024
51. Gate MENA DMCC (formerly known as Huobi OTC DMCC) and Huobi MENA FZE v Tabarak Investment Capital Limited and Christian Thurner CA-002-2023, judgment of 13 June 2024. https://www.difccourts.ae/rules-decisions/judgments-orders/court-appeal/1-gate-mena-dmcc-formerly-known-huobi-otc-dmcc-2-huobi-mena-fze-v-1-tabarak-investment-capital-limited-2-christian-thurner-2023
52. Virtual Asset (Service Providers) Act, 2020 (Cayman Islands); Cayman Islands Monetary Authority figures at 31 July 2025, reported by Maples, September 2025.

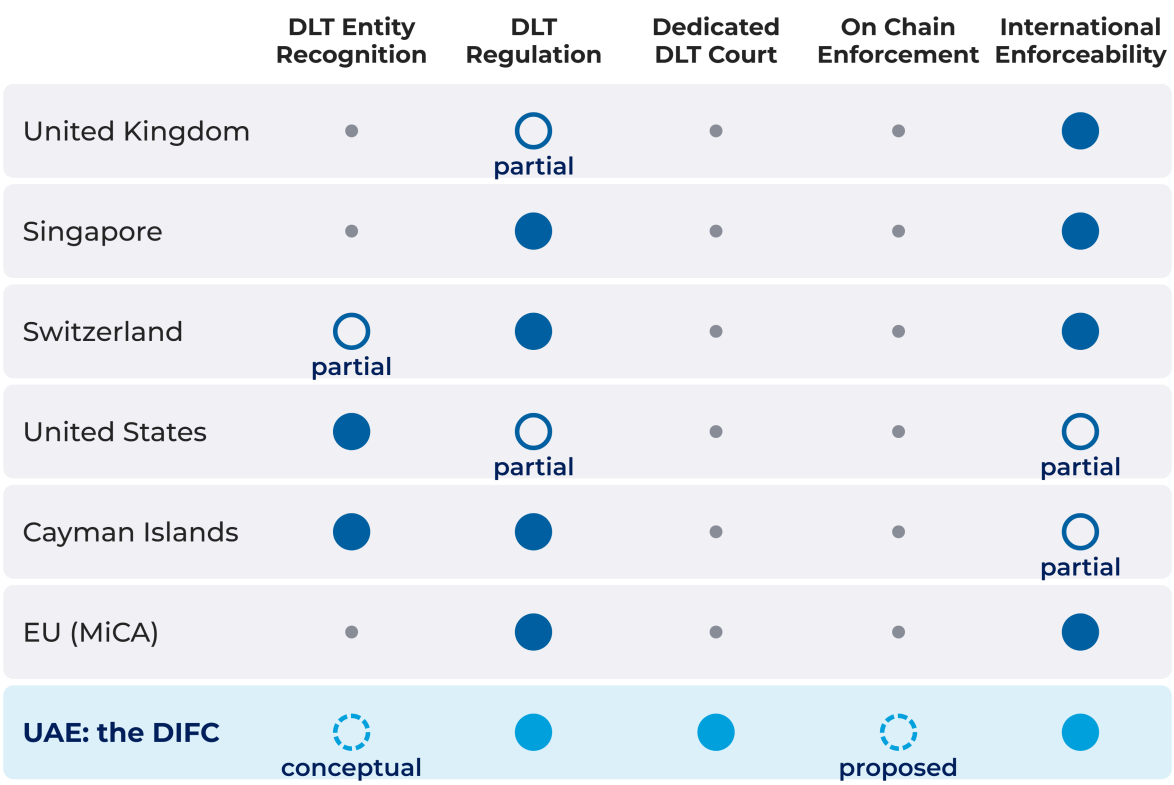


Figure 1. Comparative jurisdictional capabilities. Filled marks denote capabilities in operation; outlined marks denote partial or early stage capabilities; dashed marks denote capabilities proposed in this paper, except entity recognition in the DIFC, which is a conceptual illustration only (Section 3.2); small grey dots denote no dedicated provision today. The EU row reflects MiCA, which regulates crypto asset service providers across the EU (Section 2.5). The DIFC row is highlighted.

We are not aware of a jurisdiction that yet combines all five capabilities. Wyoming recognises decentralised organisations in statute, and the Cayman Islands provides the entity form most used by them; regulation at scale is found in Singapore, Switzerland and the EU; of the jurisdictions compared, only the DIFC has a court division dedicated to the digital economy, and the DIFC recognises digital assets as property in statute, its Court of Appeal has held crypto assets to be property, and it combines this with international enforceability; on chain enforcement is not yet in operation anywhere. The Decentralised Jurisdiction proposes to add on chain enforcement to the DIFC's existing capabilities, within a framework that could in time assemble all five.

5. The DIFC as the Anchor Institution

This section explains why the DIFC, anchored by the DIFC Courts, meets the test of a home for the framework, and what a participant designating the DIFC acquires. The DIFC Courts serve as the reference implementation of the standard; other qualified fora can implement it in the same way.

5.1 Origins and Structure

The DIFC was established in 2004 as a financial free zone with its own legal system. It has its own civil and commercial laws, supplemented by the common law, and its own courts, which work in English, independently of the local and federal courts. Its judges are drawn from the UAE and from leading common law jurisdictions, including Australia, England and Wales, Scotland and Malaysia. The result is a neutral forum outside any single national system, which suits a technology that belongs to no country.

Common law adapts to new subject matter without waiting for legislation, an advantage in a fast moving field. DIFC law may be chosen as the governing law of an arrangement wherever the parties are, and since 2011 the DIFC Courts have been able to accept cases from parties anywhere in the world, including those with no other connection to the Centre, subject to their written agreement. This is the legal foundation of the designation model (Section 7.1).

The DIFC Courts have entered into a series of memoranda of guidance with leading courts around the world, complementing the wider treaty, convention and reciprocal arrangements available for the recognition and enforcement of DIFC Courts judgments.[53]

5.2 The DIFC Courts: Judicial Innovation

The DIFC Courts' claim to anchor this framework rests on a record:

- **2017:** the Courts of the Future Forum, with the Dubai Future Foundation, and a global consultation on how a court for technology disputes should work.[54]
- **2018:** the Court of the Blockchain taskforce with Smart Dubai, exploring the verification of judgments for cross border enforcement and smart contracts.[55]
- **2021:** the Digital Economy Court Division (the Digital Economy Court) established, one of the first international court divisions dedicated to digital asset, blockchain and digital economy disputes, and the forum to which the oracle would connect.[56]
- **2024:** the DIFC Courts unveiled the Digital Notary Service and launched the Digital Assets Will.[57]
- **2025:** digital asset custody and blockchain analytics for court users, through third party service providers.[58]

The Digital Notary Service and the Digital Assets Will record transactions on distributed ledger technology. They are existing deployments, not a choice of network for the oracle: the standard is chain agnostic. A court that already records instruments on a distributed ledger approaches on chain enforcement as an extension of practice.

53. DIFC Courts, Enforcement Guide, https://www.difccourts.ae/difc-courts/enforcement; DIFC Courts, Memoranda of Guidance, https://www.difccourts.ae/about/memoranda/judicial.
54. DIFC Courts, press releases, 27 September and 28 November 2017 (Courts of the Future Forum, with the Dubai Future Foundation).
55. DIFC Courts, press release, 30 July 2018 (Court of the Blockchain joint taskforce with Smart Dubai).
56. DIFC Courts, "DIFC Courts Launches Specialised Court for Digital Economy", press release, 14 December 2021.
57. DIFC Courts, "DIFC Courts Launches New Suite of Digital Services at GITEX Global 2024", press release, 15 October 2024.
58. DIFC Courts, "DIFC Courts Permit Next-Generation Digital Custodian and Blockchain Intelligence Capabilities", press release, 15 December 2025.

5.3 The Coordinated Role of All Three Bodies

The Decentralised Jurisdiction builds on all three of the Centre's bodies:

1. **The DIFC Authority** administers the Centre, including the registration of entities. Its entity types could in future be extended to suit decentralised participants (Section 3.2).
2. **The DFSA** regulates financial services. Its Crypto Token framework, substantially revised with effect from 12 January 2026, covers financial services relating to Crypto Tokens that firms have assessed as suitable against the DFSA's criteria, with specific requirements applying to Fiat Crypto Tokens. The Investment Token regime (2021) covers tokenised securities.[59]
3. **The DIFC Courts** resolve disputes. The Digital Economy Court supplies the forum; mediation, arbitration and expert determination supply the alternatives (Section 7.4); and the oracle supplies the route to the chain.

6. The Decentralised Jurisdiction: Concept and Scope

This section defines the concept in general terms: how a decentralised jurisdiction is structured (6.1), why dispute resolution is its foundation (6.2), the ecosystem it serves (6.3), and how participants enter it (6.4). Section 5 explained why the DIFC should carry the design; this section explains what the design must be wherever it is built.

Nothing here proposes that disputes be decided by token vote or inside the systems in which they arise. A system cannot sit in judgment on its own rules. What is adapted to decentralised systems is everything around the decision: how the forum is chosen, and how its decision reaches the ledger.

6.1 How a Decentralised Jurisdiction Is Structured

A decentralised jurisdiction performs three functions:

1. **Legal formation.** It gives decentralised participants legal personality, from foundation structures for protocol treasuries to full corporate forms, so that they can hold assets, contract, and sue and be sued.
2. **Regulation.** It sets a perimeter within which digital asset activity is licensed and supervised, so that counterparties know the rules.
3. **Dispute resolution.** It provides a forum competent to hear distributed ledger disputes, weigh on chain evidence and return its orders to the chain. The oracle, described in Section 7, is the technical interface for this function.

Its defining feature is that these functions serve participants outside the jurisdiction as well as inside it. An entity formed elsewhere can bring its disputes within the dispute resolution function by designation, on any network and with counterparties anywhere (Section 6.4). Designation does not bring an activity

59. DFSA, Rulebook amendments for Investment Tokens, 2021; Crypto Token regime, 2022, as amended with effect from 12 January 2026.

within any regulatory perimeter and confers no regulatory status. None of the functions is new. What is new is their combination under one law, with a forum that has explicit distributed ledger competence at the centre (Figure 2).

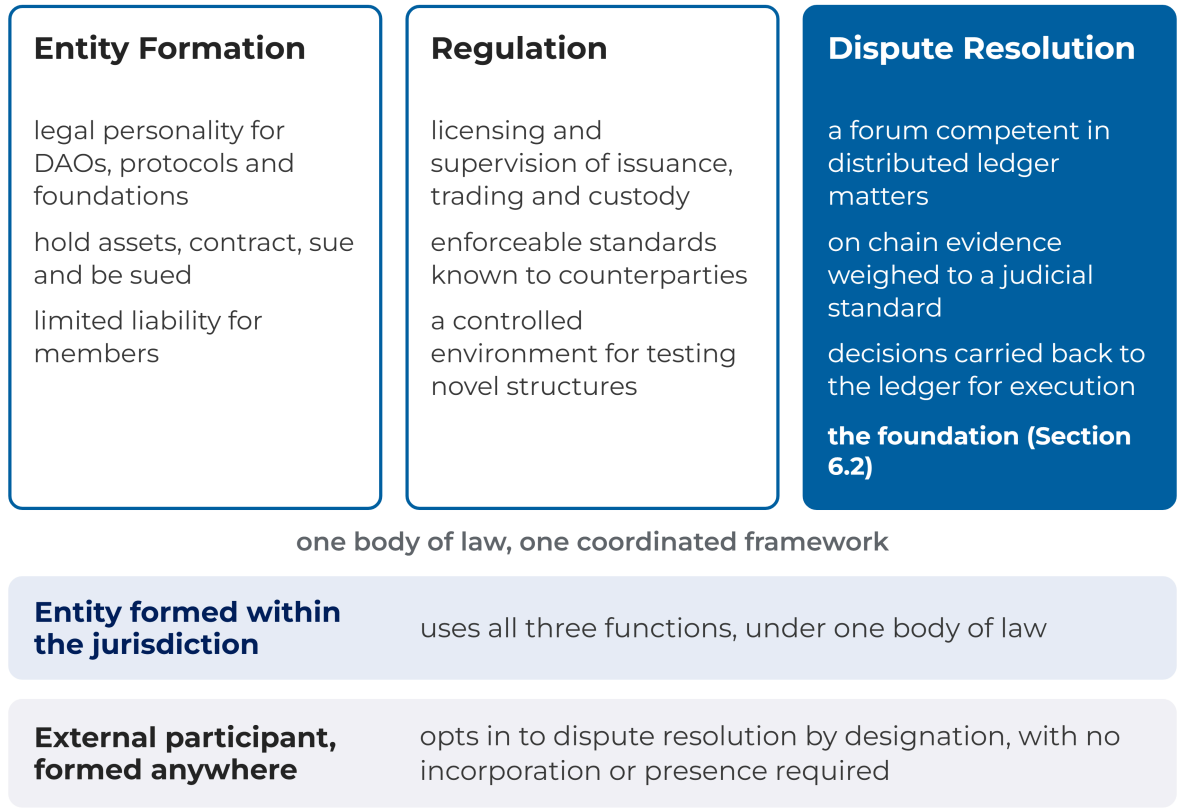


Figure 2. The three functions of a decentralised jurisdiction, serving both entities formed within it and external participants who opt in to its dispute resolution by designation. No DAO regime currently exists in the DIFC (Sections 3.2 and 6.4).

6.2 Why Dispute Resolution Is the Foundation

Of the three functions, dispute resolution is the foundation. A right that cannot be enforced when challenged, and a rule with no consequence when broken, are words alone.

The point is sharper on chain. A smart contract settles value irreversibly between parties who may be pseudonymous and anywhere in the world. When it fails, whether through a contract misfiring, assets taken or a governance process captured, there is no intermediary to reverse the transaction. The autonomy that makes the technology powerful is what makes independent, enforceable adjudication necessary.

Enforcement deserves a precise statement, because discussions of blockchain and law often miss what it has always meant. A court does not seize land; it commands the land registry. It does not take money from an account; it commands the bank that holds it. Courts act on assets through those who hold or control them, including their own enforcement officers, and their authority is real because the registrar and the banker answer to them.

On a distributed ledger, then, the question is the same as anywhere else: does anyone hold the practical ability to give effect to a decision, and does that person answer to the forum? Where such a position exists and is accountable, enforcement on chain is no stranger than enforcement anywhere else. Where it does not, the forum's orders reach the assets the way they always have, through the parties it can compel.

In most deployed systems, someone already holds that ability, though rarely accountably: issuers, exchanges and development teams hold and use points of control over deployed systems. What a decentralised jurisdiction changes is who answers for their use. Section 7.5 sets out how.

6.3 The DLT Ecosystem in Context

The ecosystem the jurisdiction serves has three layers, each linked to one of the functions above:

1. **Entities:** from conventionally incorporated exchanges, custodians and issuers, through hybrids such as a foundation wrapping a DAO, to fully decentralised DAOs and protocol foundations.
2. **Activities:** lending, trading, custody, staking and the issuance of tokenised assets, which are regulated activities in substance whether or not a licence has been sought.
3. **Infrastructure:** bridges, stablecoins and price oracles, whose failures produce many of the ecosystem's disputes.

The disputes that follow, contested liquidations, custody failures, governance attacks, fraud and contracts producing outcomes no one intended, combine technical complexity, time pressure and parties spread across many countries. Without designation, no single national court sits naturally over them.

6.4 How Entities Opt In to the Decentralised Jurisdiction

A participant brings its disputes within the jurisdiction by designation alone, with no incorporation, presence or prior connection required. International commercial parties have chosen their forum this way for decades. The DIFC Courts act only where a use case has chosen them in advance, and the oracle acts only on an asset, escrow or protocol that signed up to it before the dispute arose. Designation works through three routes:

1. **Contractual.** A governing law and forum clause in a DLT related agreement, such as a token purchase, custody or staking agreement.
2. **Protocol.** A smart contract records its designation by referencing the DRO at deployment, and parties who transact with it record their acceptance.
3. **Constitutional.** A decentralised entity's founding documents, such as a DAO operating agreement or a foundation charter, designate the forum for its disputes, binding the members who accept it.

Acceptance of the forum should be explicit. Each route should record a party's signed acceptance of the designation, rather than rely on the fact that a party interacted with a contract. How the courts recognise designations made on chain is to be settled by rule or practice direction.

Whichever route is used, designation fixes the essentials before any dispute exists: the governing agreement, anchored on chain; the governing law; and the forum. Registration of decentralised entities, such as a registered DAO, remains a conceptual illustration only (Section 3.2).

7. Dispute Resolution in the Decentralised Jurisdiction

This section sets out how a dispute moves through the Decentralised Jurisdiction, at the level of requirements: who can use it (7.1), how the oracle carries a dispute (7.2), how evidence works (7.3), how disputes are decided (7.4) and how decisions are enforced (7.5). Engineering detail is for later technical work.

Two principles frame the design. The first is the enforcement gap: a court's orders operate on people and on institutions that hold assets, and a blockchain presents no such institution. The oracle bridges the two. The second is neutrality: the oracle decides nothing. It connects on chain activity to a neutral forum and has the forum's decision enforced.

The oracle executes decisions of registered providers only, and only where the provider is designated for the use case or asset in question (Section 9.1). Every designation names the court or forum to which it is made. No forum acts by default (Section 6.4). The framework is provider agnostic: the forum may be a court, an arbitral tribunal, a mediator or an expert, with the DIFC Courts as the reference provider. A decentralised mechanism can still contribute, for example as an input to a registered forum's process, as in the enforced award in Section 4.1.

7.1 Access: Native Entities and External Participants

The forum hears the disputes described in Sections 3 and 6.3: smart contract execution, governance of decentralised organisations, tokenised assets, custody and platform failures, cross border transactions, and disputes involving autonomous agents (Section 8).

Two kinds of participant reach it. An entity formed within the jurisdiction is native, and the forum's jurisdiction extends across the whole entity, although the oracle still acts only on assets held in arrangements that have designated it. An external participant, formed anywhere, enters by designation, and the forum's authority extends only as far as the arrangements in which the standard is embedded. The dispute process is the same for both.

Designation extends established practice. Since 2011, parties with no connection to the DIFC have been able to confer jurisdiction on the DIFC Courts by written agreement, and in 2025, 31 per cent of claims brought to the Court of First Instance were opt in claims.[60] Designation is intended to be the same legal act, made in code as well as on paper. How courts recognise a designation made on chain is to be settled.

Every party that invokes the process must be identifiable to the forum. A party may remain pseudonymous to its counterparties and the network while being known to the resolver. Identification could rely on credentials derived from national digital identity, such as UAE Pass, without placing personal data on chain. Where a party is known only by a wallet address, courts have already permitted service of proceedings into the wallet as a token.[61]

60. Dubai Law No. 12 of 2004, Article 5(A)(2), as amended by Dubai Law No. 16 of 2011; superseded by Dubai Law No. 2 of 2025 Concerning Dubai International Financial Centre Courts (issued 3 March 2025); DIFC Courts, 2025 statistics, press release, 11 February 2026, and statistics for the first half of 2026, 13 July 2026.
61. D'Aloia v Persons Unknown [2022] EWHC 1723 (Ch), order of 24 June 2022 permitting service by an airdrop of a non fungible token into the defendants' wallets.

Access has a technical form as well as a legal one. The oracle rests on a standard contract interface that any use case can implement: functions to designate, to apply a freeze ordered by the forum and to receive an enforcement instruction, with standard events through which the oracle observes what has happened. The arbitration standards noted in Section 4.1 set the pattern of a contract that names its resolver at deployment; the interface proposed here extends that pattern to fora whose decisions carry legal authority.

7.2 The Dispute Resolution Oracle and the Life of a Dispute

The oracle is the legal and technical interface between an on chain use case and a real world forum. It decides nothing. It gives the forum the on chain record it needs, and carries the forum's freeze and decision to the chain for execution.

One rule governs it: while no dispute is active, the forum has no power over the system. The enforcement entry point is inert, and no instruction, however validly signed, can execute. Only an identified party to the arrangement can open the gate, by raising a dispute; the forum cannot open it itself. Once open, the forum's reach extends to the disputed asset and no further, and when the matter ends the gate closes and the forum's authority over the system returns to nothing. This is written into the contract, so any participant can verify before designating that a dormant system is beyond the forum's reach. The oldest principle of adjudication, that a court acts only when a claimant brings a case, becomes a property of the code.

Designation is always made by the use case, never by the chain, and it can be made at two levels:

1. **Application level.** An escrow, a platform or a registry designates, and the forum's authority reaches the application and the assets it holds.
2. **Asset level.** An issuer designates its asset's own smart contract. The controls the issuer already holds, typically freeze and transfer, are then exercised only on a decision of the designated forum, through the gate, any bond and the other safeguards in Section 7.5, rather than at the issuer's discretion. This is also how the framework can reach theft cases: where a stolen asset is itself designated, a court can act on it with due process.

At either level, the limit is the same: the forum's authority reaches only the designated contract and the assets it holds. It never reaches the underlying network, its validators, node operators or unaffiliated developers.

Designation can also cover a single arrangement between two parties or a whole platform, so that the designated forum resolves disputes for every participant who accepts the platform's designation (Figure 3). It locks up no assets and costs nothing while no dispute exists. Level and scope describe the same choice from two sides: the level says which contract carries the designation, and the scope says whose disputes it covers. The interface modules of Section 11.2 follow the same division.

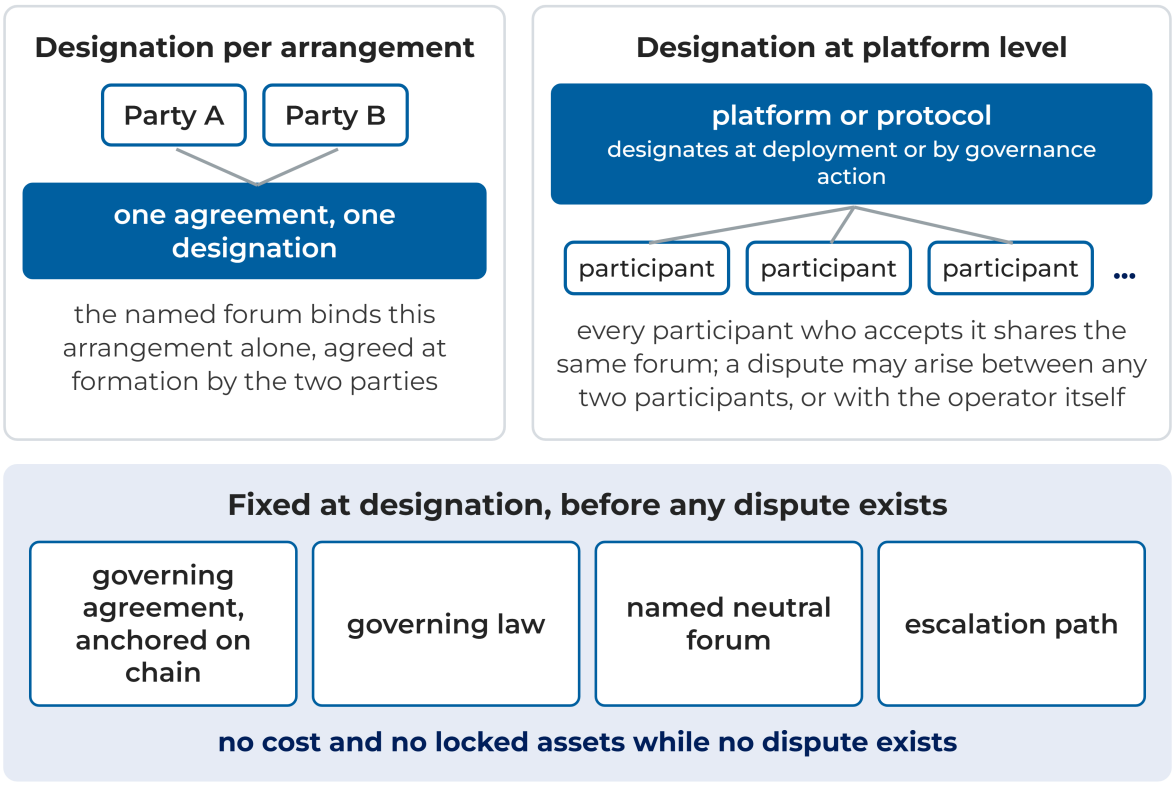


Figure 3. The two scopes of designation, and what designation fixes before any dispute exists. At platform level, each participant still records its own acceptance of the forum (Section 6.4).

At designation, the governing agreement is anchored on chain. The anchor proves which document was in force. Agreement to it rests on the parties' signatures and the governing law, and the document itself is filed with the forum at designation.

The life of a dispute then runs through five steps (Figure 4):

1. **Designation.** The use case adopts the oracle, the governing agreement is anchored on chain, and the parties are identified to the forum.
2. **Raising.** A party raises a dispute off chain and privately with the named forum, through a designated channel, so that the other party is not alerted. Raising a dispute freezes nothing.
3. **Review.** The forum reviews the claim, with the relevant on chain data and the agreement's anchor, and, only if it finds cause, orders a freeze through the oracle: the disputed asset, and only that asset, is frozen under the safeguards in Section 7.5. The matter then follows any escalation path the designation sets.
4. **Resolution.** The forum decides the dispute off chain, by litigation, mediation, arbitration or expert determination, on the evidence the parties submit, or the parties settle it (Sections 7.3 and 7.4).
5. **Enforcement.** The decision returns through the oracle, is verified and authorised (its signatures, scope and declared form are checked) and is executed: the disputed asset is dealt with as the decision directs (Section 7.5).

The oracle touches only the on chain steps: designation, freezing and execution. These match the stages of a conventional claim that a ledger can reach: commencement, interim preservation and enforcement. Pleading, evidence, argument and judgment remain human.

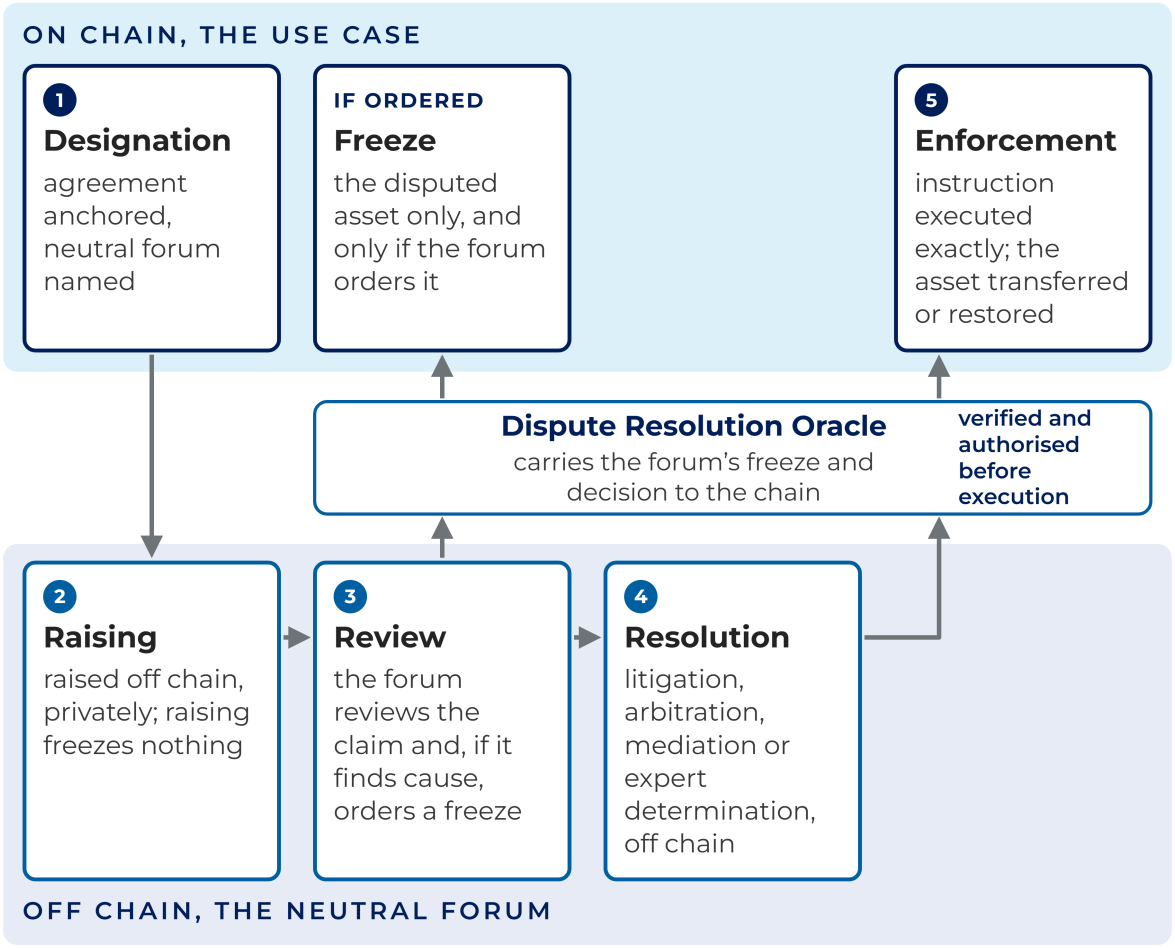


Figure 4. The life of a dispute in the Decentralised Jurisdiction: the on chain steps above, the off chain steps with the forum below, and the oracle carrying the forum's freeze and decision to the chain.

7.3 Evidence: the On Chain Record and Off Chain Submission

Evidence comes in two layers:

1. **On chain.** The record the chain itself produces: the use case's transactions and the anchored agreement, authenticated and timestamped by the ledger. It is made available to the forum when a dispute is raised and is admissible subject to the ordinary rules of authentication and expert explanation. Much of what disclosure exists to produce, a reliable record of what each party did and when, already exists before the dispute begins, because performance was written to the ledger as it happened.
2. **Off chain.** The substance of the dispute: why a delivery was late, whether force majeure applied, what the contract means. This is real world evidence, submitted and tested through the forum's ordinary process, exactly as today.

The chain supplies a reliable record of what happened on it; the real world supplies the account of why, and the judgment upon it.

Tracing, following assets through addresses or linking an address to a person, is available to an evidential standard. Real claims have failed on tracing evidence rather than on law,[62] which designated use cases avoid by recording their arrangements as they go.

7.4 Resolution by a Neutral Party

The decision is made off chain by a neutral party, and the framework favours no single route. A use case need only submit its disputes to an impartial resolver whose decision can be enforced. Four routes are available:

1. **Litigation.** A court gives a reasoned, binding and, as a rule, public judgment, with a right of appeal. It also builds precedent the whole market can rely on: a published decision on a tokenised escrow gives guidance that arrangements drafted after it can rely on.
2. **Mediation.** A neutral mediator helps the parties negotiate a confidential settlement. It is faster and cheaper than a contested hearing and suits disputes where a continuing relationship is worth keeping. The mediator imposes nothing; where the parties agree, the settlement can be made a consent order of the court and enforced as a judgment.
3. **Arbitration.** A tribunal the parties constitute gives a confidential, final award, open to challenge only on narrow grounds. Its decisive feature is reach: an award is enforceable under the New York Convention in more than 170 states.[63]
4. **Expert determination.** An independent expert answers a defined technical question, such as whether code performed to specification, whether a price oracle reported correctly or whether a liquidation was properly triggered. The answer binds because the parties agreed it would. A designation may make expert determination the first or only tier for defined categories of dispute. An expert's determination is contractual: it does not carry the enforceability of a court judgment, or of an arbitral award under the New York Convention. The oracle executes it only because the parties agreed to that in their designation, and where the designation names a court or tribunal, a challenge goes there.

The routes can be combined. A designation may require, for example, that a claim above a stated value go first to mediation and proceed to arbitration or litigation only if mediation fails. The oracle applies whatever path is set.

In every route, the resolver is a real forum, constituted under a real procedural law and admitted to the register, and the oracle executes its decisions because they carry legal authority beyond the chain.

62. D'Aloia v Persons Unknown [2024] EWHC 2342 (Ch), 12 September 2024, holding that Tether (USDT) attracts property rights; the claim failed on the facts because the tracing evidence did not establish that the claimant's funds reached the relevant exchange wallet.
63. Convention on the Recognition and Enforcement of Foreign Arbitral Awards, New York, 10 June 1958.

7.5 Enforcement: Freezing, Instruction and Execution

Interventions against on chain assets already happen at scale. Token issuers freeze balances, exchanges freeze accounts under their terms of service, and protocol administrators hold upgrade keys, pause functions and guardian roles. These act within minutes, with no hearing, no reasons and no appeal. Courts have reached on chain value only where a control happened to exist and its holder chose to comply,[64] and express powers to act on digital assets have gone unused because nothing connected them to an asset before a dispute arose.[65]

The proposal changes two things. Enforcement acts on the on chain asset directly, not on a person who may disobey or disappear. And interventions that already happen come under judicial supervision, with notice, reasons and a right of appeal. The capability is not new; the accountability is. The framework does not expect every asset to carry a freeze function. It applies where the designation provides one.

The freeze. A dispute is raised off chain, through a private channel with the named forum, so that the other party is not alerted. The forum reviews the claim and, if it finds cause, issues a Hold instruction through the oracle so that the asset cannot be moved while the matter is heard. Drawing on the protections that accompany interim relief, the freeze carries three safeguards:

1. **Scope.** It covers only the disputed asset, so a claim over one payment does not paralyse a counterparty's other dealings.
2. **Bond.** The designation may require a bond from the claimant, which answers for harm caused by an abusive freeze.
3. **Early review.** The forum reviews the freeze promptly at a return hearing, and lifts it if it was sought for tactical advantage.

Where the contract allows, the freeze ringfences only the disputed amount, holding it in a locked state inside the contract until the matter is decided. Who may raise a dispute is set in the smart contract of each use case. The remaining parameters are for the design workshop (Section 12.1): when a bond is mandatory and what value thresholds apply.

The instruction. When the matter is decided, the decision returns through the oracle as an instruction: the operative part of the order in machine form, with the anchor of the reasoned decision attached. Instructions come from a small, closed set (Table 1), so everything a forum can cause a use case to do can be seen at a glance.

Table 1. The core enforcement instructions, available to every designation.

Instruction	What it does	The remedy it carries
Transfer	Moves the disputed asset, in whole or in stated part, to the party found entitled	Award of the asset, or of damages from the fund

64. The leading instance is a court order in England and Wales, executed on or about 21 February 2023 through the administrative multisig of the Oasis protocol, against vaults holding assets derived from the Wormhole bridge exploit.
65. UK Jurisdiction Taskforce, Digital Dispute Resolution Rules (April 2021), rule 11.

Restore	Returns the disputed asset to the holder before the dispute	Claim dismissed
Split	Apportions the asset between the parties in stated proportions	Partial award
Release	Lets an escrowed arrangement proceed on its original terms	The arrangement stands; performance continues
Hold	Keeps the asset frozen to a stated date	Stay of execution, appeal pending
Lift	Dissolves the freeze with no other effect	Abusive or withdrawn claim, or settlement off chain

A designation may declare extended instructions suited to its structure, such as suspending a named function or correcting an entry in a tokenised register. Nothing undeclared can ever be called: the forum can instruct only what the parties placed within its reach at designation. A set of instructions this small can be verified exhaustively before any value depends on it.

Execution. Before signature, the oracle simulates the instruction against the current state of the chain, so the forum knows the order will execute. The contract then checks the signatures, the active dispute, the asset scope and the instruction's currency, and executes exactly what it says; all discretion stays off chain. Where a decision can be appealed, the asset is held and the instruction executes when the appeal window closes, unless a later instruction supersedes it, which is how the outcome of an appeal replaces the first decision. A mediated settlement executes the same way, as a consent instruction countersigned by the forum. Every executed instruction produces a receipt, recorded on chain and filed with the forum, which answers any attempt to recover twice on the same claim. The accumulated log of what was frozen, on whose claim, on what authority and with what outcome is the auditable enforcement record described in Section 9.4. The instruction set and format together form the technical half of the standard: a forum in any jurisdiction that adopts them issues the same instructions, checked the same way.

Authority. Once a decision is made, the instruction executes on chain under the forum's own security policy, for example several signatures held by different officers (Section 9.2). Each court sets its own signing process, and need not publish who signs or where keys are held. A designation under a regulatory regime may provide for the regulator to be notified of every instruction and to receive the record. The decision to execute remains with the forum. Where a use case holds assets on several chains, the oracle sends the instruction to each, so one decision is enforced wherever the assets are.

Limits. Direct enforcement ends at the edge of the designation. Authority reaches only the designated contract and what it holds, never the network, its validators, node operators or unaffiliated developers (Section 7.2). Where assets left the use case before the freeze, or a counterparty was never within the designation, enforcement follows the forum's conventional routes: for a judgment, the treaty, convention and reciprocal arrangements available for the recognition and enforcement of DIFC Courts judgments, complemented by the DIFC Courts' memoranda of guidance; for an award, the New York Convention. Immutable, ownerless code is a hard limit,[66] and where insolvency proceedings have begun, the collective process takes over and an oracle instruction gives way like any other execution.

66. Van Loon v Department of the Treasury, 122 F.4th 549 (5th Cir. 2024), 26 November 2024, holding that the immutable Tornado Cash smart contracts were not property for the purposes of the US sanctions statute (IEEPA), because no one could own or control them.

The Decentralised Jurisdiction claims something narrower and more useful than universal reach: within a designated use case, the link between a real forum's decision and the on chain asset becomes a declared, supervised and dependable part of the arrangement, agreed before any dispute existed.

8. An Agent Native Court: Dispute Resolution for the Machine Economy

A new category of dispute is forming in which the acting party is software: autonomous AI agents that hold wallets, sign transactions and use decentralised finance protocols on behalf of human principals. This section extends the framework of Sections 6 and 7 to that category in four parts: why agent commerce needs a forum (8.1), how a principal's authority can be proved with emerging authorisation standards (8.2), how the oracle works with legal context fixed before a transaction (8.3), and the liability questions the forum will answer (8.4). How far agents will become autonomous, and how quickly, no one can yet say. This section sets a direction, not a destination.

8.1 Why Agentic Commerce Needs a Forum

We are not aware of a jurisdiction with a comprehensive framework for AI agents as participants in commerce or as parties to disputes. As the chain between a human decision and a machine action lengthens, agency, negligence and product liability give no clear answer to a simple question: who is responsible for what this agent did?

The disputes are ordinary commerce at machine speed. An agent managing a treasury moves into an asset that collapses. An agent is compromised, and its valid signatures drain the account it was trusted with. Each raises a familiar legal question, such as mandate, mistake or fraud, in an unfamiliar setting where the acting party is software, the record is a ledger and the principals may be on different continents.

One distinction narrows the problem. An agent that only prepares decisions for human approval raises no new question: its principal answers for what the principal approves. The new questions arise with agents that execute, moving value on their own signatures within a delegated mandate. The framework below is designed for those agents.

8.2 Proving What the Principal Authorised

A forum resolving an agent dispute needs reliable evidence of what the principal actually authorised. With it, the agent's conduct can be compared against its mandate.

The payments industry is building this evidence layer. Mastercard's Verifiable Intent specification creates a cryptographic chain of delegation: the principal's identity is attested, the principal signs a credential stating what the agent may do, with limits on amounts, counterparties and actions, and each of the agent's actions is signed and tied to those limits.[67] Google's Agent Payments Protocol (AP2) and Coinbase's x402 protocol take related approaches to authorising and settling agent payments.[68,69]

These efforts prove what was authorised and what was done. None of them decides what happens when the two diverge, under which law, or how a decision is enforced. That is the gap the oracle fills. The oracle is agnostic to the authorisation layer: it can receive evidence from any of these standards, and it does not depend on any one of them.

8.3 Legal Context Before the Transaction, the Oracle After It

The Legal Context Protocol, launched in June 2026 by the international division of the American Arbitration Association and Integra Ledger, attaches the governing terms, applicable law and agreed dispute path to a transaction before it happens.[70] The oracle works after the event, carrying the dispute to the forum and the decision back. Together they close the loop: legal context fixed at formation, adjudication by a real forum, enforcement against the asset. A designation could itself form part of a transaction's legal context, so that an agent reviewing a transaction would see the designated forum and enforcement path. This paper records that compatibility as a direction for the technical work.

For agent disputes, the process of Section 7 applies unchanged. Designation, raising, review, freezing and enforcement do not depend on whether a person or software initiated the disputed transaction. What changes is the evidence: the forum receives the delegation chain and the agent's signed actions alongside the anchored agreement and the on chain record. Resolution stays with people: judges, arbitrators, experts and mediators. An agent native court is a court equipped to read the records machines produce.

This may matter more for agents than anywhere else. Software does not read prose; for an agent, the smart contract is the natural contracting instrument. If agent commerce grows as expected, a rising share of contracting will be born on chain, in the form this framework serves. A dispute standard that an agent can read before it transacts could become as ordinary in agent commerce as a jurisdiction clause is in human commerce.

8.4 Liability: Questions the Forum Will Answer Case by Case

Where an agent acted within its mandate, the natural starting point is that the principal bears the consequences. Where it exceeded its mandate or was compromised, the question is open: how responsibility is shared between the principal who set the limits, the deployer who ran the agent and the provider whose model misbehaved has no settled answer anywhere, and this paper offers none.

67. Mastercard, Verifiable Intent specification, v0.1 draft, February 2026. Open specification, Apache 2.0 licence. https://verifiableintent.dev; repository at https://github.com/agent-intent/verifiable-intent.
68. Google, Agent Payments Protocol (AP2), 2025.
69. Coinbase, x402 payment protocol, 2025.
70. Legal Context Protocol, launched 24 June 2026 by the AAA-ICDR (the international division of the American Arbitration Association) and Integra Ledger.

What the jurisdiction can do is ensure these questions reach a competent forum with an evidential record that makes them decidable, provide an enforcement path for whatever the forum decides, and let the law develop case by case, as commercial law always has. Nothing in the design assumes that disputants are human. Jurisdictions that wait for the questions to be settled before building the forum will find the answers were written elsewhere.

9. Governance and Operating Model

This section sets out who governs the enforcement power and under what constraints: the institutions and the register (9.1), the enforcement authority (9.2), the expertise the model draws on (9.3) and the safeguards of due process (9.4).

9.1 Institutional Governance

The Decentralised Jurisdiction builds on the institutions the DIFC already has: the DIFC Authority, the DFSA and the DIFC Courts. The DIFC Courts are the operational anchor for the use cases that designate them: they administer the procedures for routed disputes, the arrangements under which enforcement instructions issue, and the connection between the oracle and the Courts' registry.

The one new instrument it proposes is a register of qualified providers, which could follow as courts and institutions come together around the standard. The oracle executes decisions of registered providers only, and only where the provider is designated for the use case or asset in question. The register records each provider's identity, the forms of resolution it offers, how its enforcement instructions are authorised, and its status. Admission, suspension and removal are deliberate acts, taken against published criteria, recorded publicly and subject to notice. Changing who may decide is slow and public; executing what has been decided is fast.

The register is also where the standard could become international. If courts and institutions come together around the standard, the register could be shared among them, for example under an international association, with admission under published and uniform criteria. Each designation would be made to a named court or forum within it. The DIFC Courts would be the first forum. The register gives the recognition aspiration of Section 11.3 a practical instrument (Figure 5).

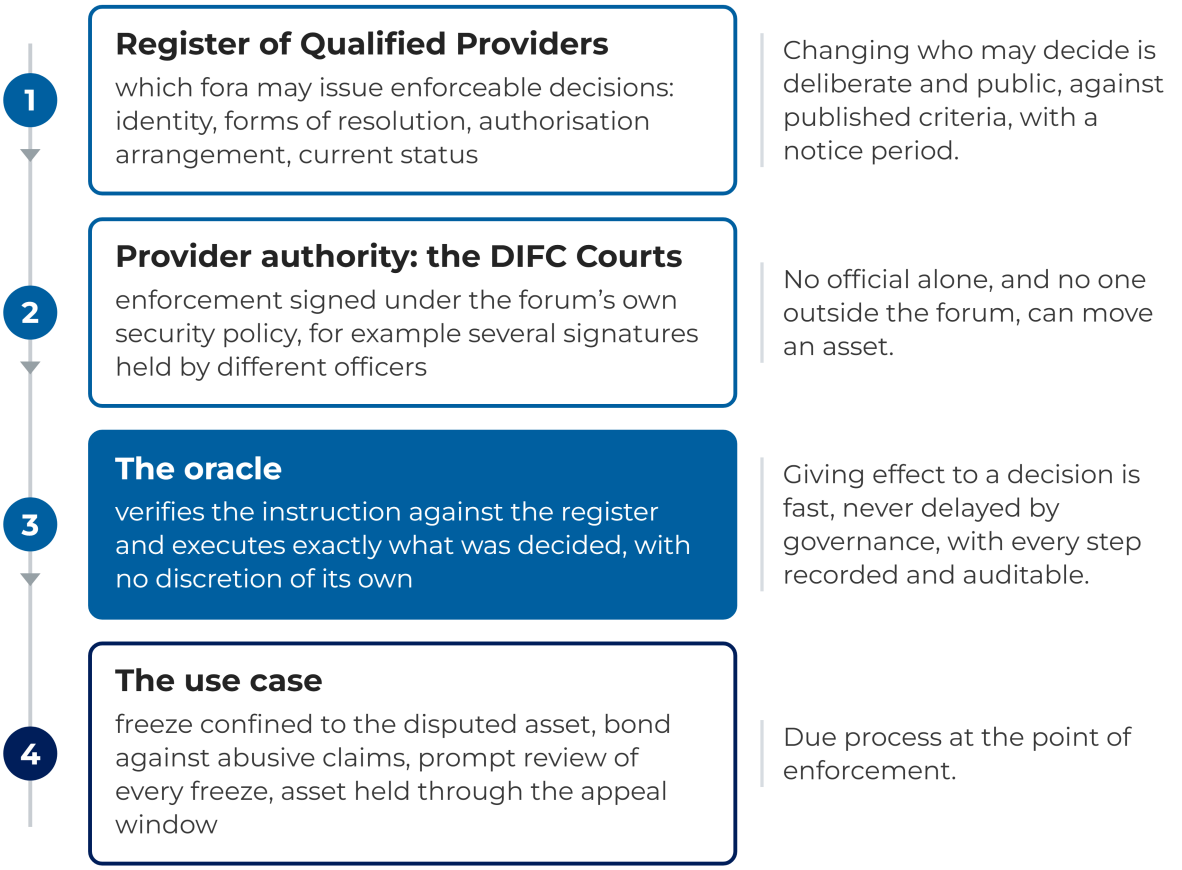


Figure 5. The chain of authority: from the register of qualified providers to enforcement within the use case.

9.2 The Enforcement Authority

Enforcement is where the jurisdiction touches assets, so its authority must be the most tightly controlled part of the model. No single person, and no party outside the forum, can cause an instruction to execute.

The DIFC Courts sign only in disputes raised under a designation that names them. Once a decision is made, the instruction executes on chain under the forum's own security policy. This is how it could be done: several signatures, each held by a different officer who dealt with the matter, so that no official acting alone can move an asset and forging an instruction would require several keys to be compromised at once. Each court sets its own signing process, and need not publish who signs or where keys are held.

Nor can anyone outside the Courts act: the developer of the use case, the operator of the oracle and the parties hold no share of the authority. How keys are held, and how a lost or compromised key is replaced without weakening that control, are part of each forum's security policy. The security, fallback and testing of these arrangements are addressed in Section 11.2.

Two constraints from Section 7 complete the picture. Where a decision can be appealed, the asset is held through the appeal window and transfers only once the decision is final. Where a use case holds assets on more than one network, one decision, authorised once, executes on every chain on which affected assets sit.

Other registered providers need not copy the Courts' structure, but they must meet the same requirement: authority shared among independent holders, no individual able to act alone, and every instruction traceable to a decision made under the forum's procedure.

9.3 Stakeholders and Expertise

The model draws on four communities:

1. **Judges** of the Digital Economy Court, the core of adjudication.
2. **Mediators, arbitrators and experts** available to parties in the DIFC, for the alternative routes of Section 7.4.
3. **Technical experts and auditors**, to read code, logs and on chain records, alongside the DIFC Courts' blockchain analytics capability.
4. **Practitioners and academics**, whose drafting and criticism will shape the standard.

Builders, platforms, custodians, issuers, exchanges and arbitral institutions will be consulted on the standard form of designation, since they are the parties who will designate and through whose controls much enforcement will run. The peer review of this paper begins a pattern the jurisdiction intends to keep: the register's criteria, the standard form of designation and the rules for on chain evidence will develop under continued scrutiny.

9.4 Due Process and Procedural Safeguards

The safeguards are best measured against the practice they replace: private freezes exercised on an intermediary's own authority. A freezing injunction requires a good arguable case, assets capable of enforcement, a real risk of dissipation and that it be just and convenient to grant the relief. Where relief is sought without notice, the applicant is also subject to the requirements applicable to without-notice applications, including full and frank disclosure and will ordinarily give a cross-undertaking in damages, with provision for an early return hearing. Private freezes have taken the speed of that remedy and dropped its discipline. This jurisdiction restores the discipline without losing the speed.

Within a designated arrangement, a freeze takes effect as soon as the forum authorises it, and the oracle carries that authorisation to the chain at once. That is what makes interim protection as fast as the chain, and any bond and the early review are the filters that stop it being abused. Where the contract allows, the freeze ringfences only the disputed amount, and who may raise a dispute is set in the smart contract of each use case (Section 7.5). Every party is heard before a decision. Every decision carries reasons and a route of appeal, with the asset held until the appeal window closes. And because every enforcement step executes through the oracle, the record of what was frozen, on whose claim, on what authority and with what outcome can be audited.

10. Market and Policy Implications

This section sets out what the Decentralised Jurisdiction changes for institutions (10.1), for mid value disputes (10.2), for regulators (10.3) and for cross border commerce (10.4).

10.1 Institutional Adoption

A regulated institution holding assets on a public network is exposed to the private interventions described in Section 7.5, without notice, a hearing or compensation. That risk is hard to price, and compliance functions decline it. Judicial supervision turns it into a legal risk of the kind institutions already manage: a known forum, a known law, notice, reasons, a possible bond against abuse and a right of appeal. That conversion opens the infrastructure to regulated participation.

10.2 A Forum for Mid Value Disputes

Small consumer complaints are handled by platforms, and very large losses attract prosecutors and insolvency estates. In between sits a wide band of mid value cross border disputes that are too large to abandon and too costly to litigate across several jurisdictions. In Lochan v Binance, courts at first instance and on appeal refused to hold users to a platform's arbitration clause, finding that it permitted unilateral variation and imposed costs out of all proportion to the claims, and leave for a further appeal was refused in May 2025.[71] For claims of this size, the practical answer to where to sue has often been nowhere worth the cost. Designation removes much of the cost before the merits are reached: the forum is fixed, the terms are proved, much of the evidence is on the ledger and the enforcement path already exists. Claims that were uneconomic become ordinary commercial claims.

10.3 Regulatory Alignment

For regulators, the Decentralised Jurisdiction complements their regimes and never replaces them. It grants no licences and removes no obligation under MiCA, the DFSA's crypto token framework, VARA's rules or any other regime. The lead use case, tokenised real estate, sits largely outside the DIFC, so the framework may also be explored with the relevant regulators and authorities beyond the Centre. What designation adds is an enforcement path the regimes lack: obligations that end today in a fine can, within a designated use case, reach the assets concerned. A designation under a regulatory regime may provide for the regulator to be notified of every instruction and to receive the record. The decision to execute remains with the forum.

10.4 Cross Border Commerce

Courts in several common law jurisdictions, including the DIFC, have recognised digital assets as property, but the case law shows that favourable property law alone often recovers little, while a forum agreed in advance is worth a great deal. Designation supplies that agreement without relocation: counterparties on three continents can share, from the start, one forum, one governing law and one enforcement path that reaches the asset.

71. Lochan v Binance Holdings Limited, 2023 ONSC 6714, affirmed 2024 ONCA 784, refusing a stay in favour of arbitration on grounds including the clause's unilateral variation right and prohibitive cost; leave to appeal to the Supreme Court of Canada dismissed, 22 May 2025.

11. Requirements for Implementation

This section states what must be true for the Decentralised Jurisdiction to operate, as requirements rather than designs, in three areas: the legal framework (11.1), technical integration (11.2) and international cooperation (11.3). Each is already in place in the DIFC or is defined work for the phases set out in Section 12.

11.1 Legal Framework

Four legal requirements apply:

1. **Recognition of designation.** Parties may already confer jurisdiction on the DIFC Courts by written agreement. Implementation must confirm that a designation recorded on chain, with explicit signed acceptance by the parties, satisfies that requirement. This is to be settled by rule or practice direction.
2. **Mediated settlements.** A mediated settlement must be enforceable through the same channel as a judgment, by way of a consent order, so that escalation tiers remain workable.
3. **Procedure.** The forum's rules must provide for service on a party known by a wallet address, the admission of on chain records and tracing evidence, prompt review of a freeze, and hearings at the speed the subject requires.
4. **Data protection.** No personal data is written to any chain. Documents are anchored on chain as salted commitments rather than plain hashes. The commitment reveals nothing about the document or the persons named in it and can be verified only by a party holding the document and its salt, which are filed with the forum at designation.[72] Pleadings, evidence and the reasoned judgment stay off chain with the forum.

11.2 Technical Integration

The surface between the legal system and the chain should be as small as possible. Five technical capabilities are required:

1. **An on chain register.** The register of qualified providers can be checked on chain, so a use case can confirm an instruction comes from a registered provider designated for it.
2. **Machine readable decisions.** Decisions take a standard form that any integrating chain can verify against the register.
3. **Enforcement components.** Each supported network has a component with no discretion, which checks authority and scope and executes exactly what the decision directs.
4. **Private identity attestation.** Parties are identified to the forum without personal data going on chain.
5. **Zero cost while dormant.** No change to normal operation while no dispute exists (Section 7.2).

Each enforcement component acts only on the designated contract and what it holds, never on the network itself (Section 7.2).

72. Salted commitments are an accepted approach to keeping hashed personal data beyond the reach of chain observers. See European Data Protection Board, Guidelines 02/2025 on processing of personal data through blockchain technologies, final version, 2026.

The oracle and its signing arrangements will be operated as critical infrastructure, with independent security audits, documented fallback and recovery procedures, and regular testing. The operating detail is set at the design workshop (Section 12.1) and in the pilots.

The core of the work is a standard contract interface for the oracle, with modules for the forms of designation in Section 7.2: at application level, for a single arrangement or a whole platform, and at asset level, for tokens that carry the standard themselves. The standard is chain agnostic, and the DIFC Courts' existing deployments on distributed ledger technology, the Digital Notary Service and the Digital Assets Will, are examples rather than choices of network. The standard may be expressed as an ERC for networks that run the Ethereum Virtual Machine, and equivalently for other networks.

No new legal power is needed. An express power for a tribunal to act on digital assets has existed since 2021 with no reported use (Section 4.2). The work is the missing connection: the interface, the standard form of designation and the path to adoption.

11.3 International Cooperation

The Decentralised Jurisdiction is built to interoperate. Its decisions travel outward through the recognition routes of Section 7.5, and decisions of other registered fora travel inward through the register. A standard for connecting legal decisions to on chain assets has two layers: a technical layer, governing how a decision is expressed and verified, and a legal layer, governing why it binds across borders. This paper proposes the technical layer. For the legal layer, the aspiration is a shared standard under which decisions from one participating jurisdiction are recognised in the others. This would play a role for on chain enforcement similar to the one the New York Convention plays for arbitration,[73] a compact instrument of mutual recognition that carried a global industry. The DIFC, a common law jurisdiction within a New York Convention state, is well placed to convene that work.

12. Phased Implementation Roadmap

The path from concept to operating jurisdiction runs through five phases (Figure 6). Each phase is gated on the one before it: no live value is touched until the machinery is proved without it, and no claim of scale is made until a contained pilot has earned it.

73. Convention on the Recognition and Enforcement of Foreign Arbitral Awards, New York, 10 June 1958.

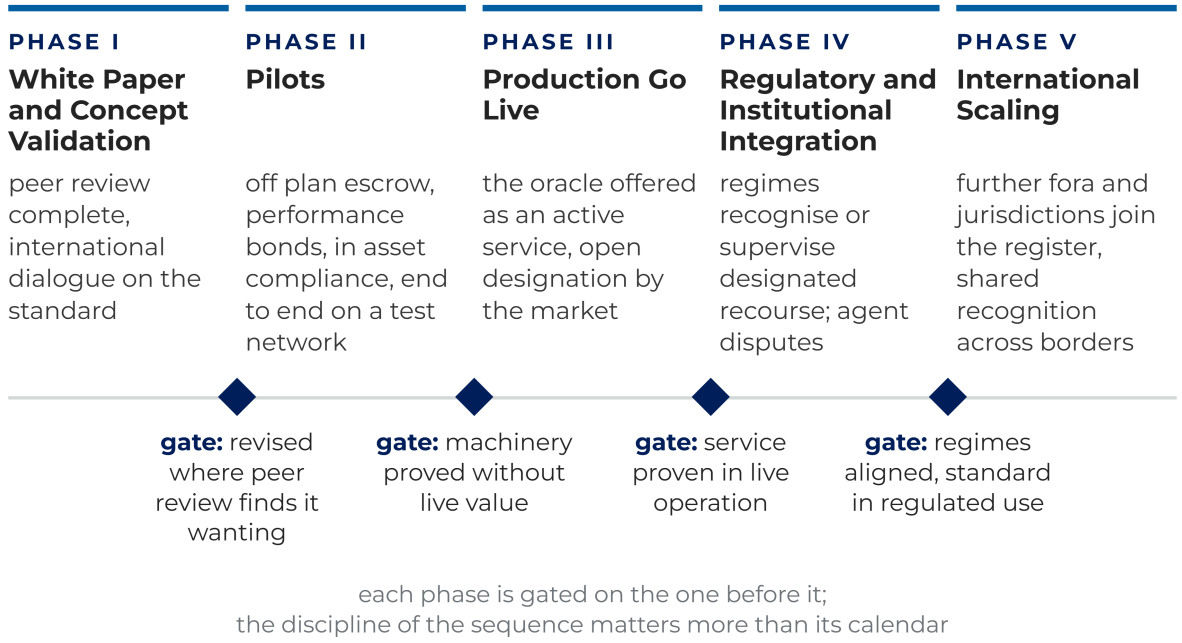


Figure 6. The phased implementation roadmap, each phase gated on the one before it. Designation stays voluntary in every phase (Section 12.4).

12.1 Phase I: White Paper and Concept Validation

This paper belongs to the first phase. That phase covers peer review by the organisations listed in the Acknowledgements, from blockchain networks, companies and foundations, with the support of a regulator and free zone authorities, followed by publication, and a design workshop on the detailed technical questions reviewers have raised. The purpose is exposure: the concept is placed before the parties who would build on it, decide under it and rely on it, and revised where their scrutiny finds it wanting.

The phase has a second track. The standard is meant for other jurisdictions to adopt, so the first phase also opens the international dialogue that ambition requires: fora considering admission to the register, jurisdictions considering the standard, and the cooperative register of Section 9.1 given its first participants. The dialogue continues through every later phase, but the pilots of Phase II proceed on the reference implementation alone; nothing in the sequence waits on international agreement.

The phase ends when the framework of Sections 6 to 9 has survived scrutiny in a form its future users find workable.

12.2 Phase II: Pilots

The second phase tests the framework on contained use cases: a defined asset class, a designated control that exists from the start, and identified participants. Examples from Section 3.3 include an off plan escrow, which tests designation, milestone release and freezing; an on chain performance bond, which tests rapid determination and direct execution; and asset level designation (Section 7.2), where the standard is embedded in the token itself. These conditions follow from the evidence in this paper: enforcement succeeds where a reachable asset sits under a known control, so the pilots are built to be the

cases the design serves best. Each pilot runs the full process end to end: designation, a raised dispute, the forum's review, the freeze and its safeguards, resolution and enforcement, including the response to a spurious claim. A reference implementation runs on a test network before any live value is admitted, and the lessons are folded into the standard form of designation before the phase closes.

12.3 Phase III: Production Go Live

The third phase takes the service live. The DIFC Courts, and any other registered forum, would receive designations. The procedural rules of Section 11.1 would be adopted, subject to the Courts' usual rule-making process; the register would become operational with the DIFC Courts as its first entry; the mediation, arbitration and expert determination routes would be connected; and production deployment would proceed on the networks the pilots have proved, under the enforcement authority of Section 9.2. The standard interface would be published (Section 11.2). The focus is the dispute resolution service itself. The Centre's wider functions remain available to designated use cases that want them, but going live does not depend on them.

12.4 Phase IV: Regulatory and Institutional Integration

In the fourth phase, the standard becomes part of the institutional fabric. Designation is voluntary. A regulator may choose to recognise designation as meeting a licensed platform's obligation to provide recourse, or receive notice of instructions as described in Section 10.3. Any future requirement to designate would be introduced by the relevant regulator through its own consultation. Capabilities for disputes involving autonomous agents (Section 8) enter scope as practice and law mature.

12.5 Phase V: International Scaling

The fifth phase takes the standard international. Courts and arbitral institutions in other jurisdictions join the register, jurisdictions adopt the standard in their own law, and the cooperative register of Section 9.1 becomes the shared instrument for selecting a forum. Further networks are supported as demand requires, and work on a shared legal standard for cross border recognition (Section 11.3) continues with the community built in earlier phases. The sequence is fixed; the timing will follow the evidence.

13. Conclusion

This white paper is the first step towards a global standard for connecting the on chain economy to legal authority. It has set out the gap: an economy of real scale whose losses are resolved, when they are resolved at all, by negotiation with attackers, sponsor goodwill or the discretion of intermediaries. And it has proposed an answer: designation before any dispute exists, adjudication by a real neutral forum, and enforcement carried back to the asset through the Dispute Resolution Oracle.

The reason for the proposal bears repeating. Courts already rule on digital assets. What they do not yet have is a standard route that carries their decisions directly onto the ledger, without depending on a service provider to act. The oracle gives a court that route, but only for the arrangements that choose it: the oracle reaches only the assets, escrows and protocols that signed up to it before a dispute arose (Section 6.4). Even then, the forum has no power over the arrangement until a party raises a dispute, and it can instruct only from a small, closed set of actions declared in advance.

The proposal formalises only what needs formalising, namely terms, forum and enforcement, and leaves everything else where it stands. Every durable market has rested on a settled answer to one question: what happens when the parties disagree. Land, shipping, securities and banking became investable at scale only when a forum existed whose decisions reached the assets in dispute. The on chain economy is the first market of consequence to reach its size without that answer.

The standard is built for participation. Any qualified forum can operate it, any jurisdiction can adopt it, and a shared register of qualified providers could follow among the courts and institutions that do. The DIFC's role is to convene and to prove: to publish the design, carry it through pilots and anchor the reference implementation.

What survives scrutiny will be tested in contained pilots before any live value is touched. The dispute layer of the on chain economy will be built by someone. We propose to begin, in the open, and to be judged on what the record shows.

Acknowledgements

Project Team

DIFC Courts

- **Amna Al Owais**, Deputy Director, DIFC Courts. Amna Al Owais is Deputy Director of the DIFC Courts, providing high-level operational support and oversight of the Courts' public services. She spearheads special projects in technology and innovation, including the Courts of the Future initiative with the Dubai Future Foundation and the Court of the Blockchain with the Dubai Digital Authority. She chairs the DIFC Courts' Users' Committee and established the Courts' Pro Bono Programme in 2009.
- **Arul Jose Vigin**, Head of Digital and Data, DIFC Courts. Arul Jose Vigin is a senior technology leader with over 20 years of experience across government, financial services and judicial technology. He has led major digital transformation programmes at the DIFC Courts, including smart court services, blockchain-enabled digital trust solutions and AI-assisted judicial capabilities. He is a member of the Courts of the Future initiative and holds a Master's degree in Technology and Law.
- **Ruksana Ellahi**, Legal Counsel and Data Protection Officer, DIFC Courts. Ruksana Ellahi is Legal Counsel and Data Protection Officer at the DIFC Courts, where she leads the Legal Affairs function and provides strategic legal, regulatory and governance advice across the organisation. She also oversees the Courts' data protection strategy and compliance framework. She holds an LLB (Hons) and was admitted as a solicitor in England and Wales in 2007.
- **Ajaz Wani**, Assistant Manager, Digital Services, DIFC Courts. Ajaz Wani is a digital services professional with experience in technology implementation, court digitalisation and service transformation. He supports the development and delivery of digital platforms, emerging technology initiatives and technology-enabled court services.

Deca4 Advisory (technology advisory)

- **Mohammed Mahfoudh**, Chief Executive Officer, Deca4 Advisory. Mohammed Mahfoudh is Chief Executive Officer of Deca4 Advisory, a Dubai firm that designs, builds, operates and transfers sovereign digital infrastructure for governments, regulators and courts.

- **Dan Fong**, Chief Technology Officer, Deca4 Advisory. Dan Fong is Chief Technology Officer of Deca4 Advisory, where he leads the firm's technology work for governments, regulators and courts.
- **Joshua**, Head of Growth, Deca4 Advisory. Joshua leads growth at Deca4 Advisory. He has five years of experience in decentralised finance (DeFi), working across a range of protocols, and advises early-stage companies in the sector.

Peer Reviewers and Contributors

The DIFC Courts thank the organisations that reviewed drafts of this paper. Their comments shaped this version, and points held for later work will be taken up in the design workshop and the phases that follow. Views in this paper are those of the DIFC Courts and do not necessarily reflect the views of any reviewing organisation or supporter.

Organisation	Contributors
ADI Foundation	James Smith, Chief Strategy Officer; Gillian Lafferty, Head of Compliance
Ava Labs, Inc. (Avalanche)	Lee A. Schneider, General Counsel
Ethereum Institutional	Benjamin Chodroff, Head of Technical Strategy and MENA
Kleros	Federico Ast, Founder and CEO; Robert Dean, Member of the Supervisory Board, CEDR-Accredited Mediator, FCIArb
Polygon Labs	Aishwary Gupta, Global Head of Business; Sandeep Nailwal, Co-Founder

Points of Contact

Organisation	Point of contact
DIFC Courts	Arul Jose Vigin, Head of Digital and Data, arul.vigin@difccourts.ae
Deca4 Advisory	Dan Fong, Chief Technology Officer, dan@deca4.com
ADI Foundation	James Smith, Chief Strategy Officer, james.smith@adi.foundation
Ava Labs, Inc. (Avalanche)	Lee Schneider, General Counsel, lee@avalabs.org
Ethereum Institutional	Benjamin Chodroff, Head of Technical Strategy and MENA, benjamin@ethereuminstitutional.org
Kleros	Federico Ast, Founder and CEO, federico@kleros.io
Polygon Labs	Aishwary Gupta, Global Head of Business, aishwary@polygon.technology

Bibliography

Legislation, Regulation and International Instruments

Central Bank of the UAE, Payment Token Services Regulation, 2024.

Convention on the Recognition and Enforcement of Foreign Arbitral Awards, New York, 10 June 1958.

DFSA, Crypto Token regime, provisions on Fiat Crypto Tokens.

DFSA, Rulebook amendments for Investment Tokens, 2021; Crypto Token regime, 2022, as amended with effect from 12 January 2026.

Digital Assets Law, DIFC Law No. 2 of 2024. https://www.difc.com/business/laws-and-regulations/legal-database/difc-laws/digital-assets-law-difc-law-no-2-of-2024

Dubai Law No. 12 of 2004, as amended by Dubai Law No. 16 of 2011; superseded by Dubai Law No. 2 of 2025.

Dubai Law No. 2 of 2025 Concerning Dubai International Financial Centre Courts (issued 3 March 2025).

Federal Act on the Adaptation of Federal Law to Developments in Distributed Ledger Technology (Switzerland), adopted September 2020, fully in force 1 August 2021.

Hague Conference on Private International Law, Convention on Choice of Court Agreements, 30 June 2005.

Hague Conference on Private International Law, Convention on the Recognition and Enforcement of Foreign Judgments, 2 July 2019.

Payment Services Act 2019 (No. 2 of 2019), Singapore, effective 28 January 2020.

Property (Digital Assets etc) Act 2025, c. 29, United Kingdom, Royal Assent 2 December 2025.

Regulation (EU) 2023/1114 of the European Parliament and of the Council, Markets in Crypto-Assets Regulation (MiCA), 31 May 2023.

UAE Federal Decree Law No. 6 of 2025, published 15 September 2025, in force 16 September 2025.

Virtual Asset (Service Providers) Act, 2020, Cayman Islands.

Wyoming Decentralized Unincorporated Nonprofit Association Act, SF0050, signed 7 March 2024.

Wyoming Senate File SF0038 (DAO LLC), signed 21 April 2021, effective 1 July 2021.

Case Law

AA v Persons Unknown [2019] EWHC 3556 (Comm).

D'Aloia v Persons Unknown [2024] EWHC 2342 (Ch), 12 September 2024.

D'Aloia v Persons Unknown [2022] EWHC 1723 (Ch), including the order of 24 June 2022 permitting service by non fungible token.

Gate MENA DMCC (formerly known as Huobi OTC DMCC) and Huobi MENA FZE v Tabarak Investment Capital Limited and Christian Thurner CA-002-2023, judgment of 13 June 2024.

In re FTX Trading Ltd., Case No. 22-11068, United States Bankruptcy Court for the District of Delaware, November 2022.

In re Terraform Labs Pte. Ltd., Case No. 24-10070, United States Bankruptcy Court for the District of Delaware, January 2024; In re Three Arrows Capital Ltd, Case No. 22-10920, United States Bankruptcy Court for the Southern District of New York, 2022.

Lochan v Binance Holdings Limited, 2023 ONSC 6714, affirmed 2024 ONCA 784; leave to appeal to the Supreme Court of Canada dismissed, 22 May 2025.

Order (England and Wales) executed on or about 21 February 2023 through the administrative multisig of the Oasis protocol, against vaults holding assets derived from the Wormhole bridge exploit.

Van Loon v Department of the Treasury, 122 F.4th 549 (5th Cir. 2024), 26 November 2024.

Institutional Reports and Publications

ARK Invest, Big Ideas 2026, January 2026.

BCG and ADDX, "Relevance of On-Chain Asset Tokenization in Crypto Winter", September 2022.

BlackRock, "BlackRock Launches Its First Tokenized Fund, BUIDL, on the Ethereum Network", press release, 20 March 2024.

CEX.io, Stablecoin Landscape Report, January 2025.

CoinGecko, 2025 Annual Crypto Industry Report. https://www.coingecko.com/research/publications

CV VC, Crypto Valley company figures, May 2025.

DeepDAO, DAO Treasury Analytics, accessed March 2026.

DefiLlama, Total Value Locked, value at 31 December 2024.

DFSA, "Tokenisation Regulatory Sandbox", launched March 2025. https://www.dfsa.ae/innovation/tokenisation-regulatory-sandbox

DIFC Courts, press releases on the Courts of the Future Forum with the Dubai Future Foundation, 27 September and 28 November 2017.

DIFC Courts, press release on the Court of the Blockchain joint taskforce with Smart Dubai, 30 July 2018.

DIFC Courts, "DIFC Courts Launches New Suite of Digital Services at GITEX Global 2024", press release, 15 October 2024.

DIFC Courts, "DIFC Courts Launches Specialised Court for Digital Economy", press release, 14 December 2021.

DIFC Courts, "DIFC Courts Permit Next-Generation Digital Custodian and Blockchain Intelligence Capabilities", press release, 15 December 2025.

DIFC Courts, 2025 statistics, press release, 11 February 2026; statistics for the first half of 2026, press release, 13 July 2026.

DIFC Courts, Enforcement Guide. https://www.difccourts.ae/difc-courts/enforcement

DIFC Courts, Memoranda of Guidance with International Courts. https://www.difccourts.ae/about/memoranda/judicial

Dubai Land Department, "Dubai Land Department Launches Pilot Phase of the Real Estate Tokenisation Project", press release, 19 March 2025.

Dubai Media Office, VARA transaction volumes, 12 October 2025.

Dubai PropTech Hub, PropTech 2033, white paper, 11 March 2026.

European Data Protection Board, Guidelines 02/2025 on processing of personal data through blockchain technologies, final version, 2026.

JAMS, Rules Governing Disputes Arising out of Smart Contracts, draft published for review and comment (undated).

Law Commission, Digital Assets: Final Report, Law Com No. 412, 28 June 2023.

LawtechUK, International Jurisdiction Taskforce, July 2025.

Lessig, L., Code and Other Laws of Cyberspace, Basic Books, 1999.

London Chamber of Arbitration and Mediation, Blockchain Expedited Arbitration Rules, published 2025.

McKinsey and Company, "From ripples to waves: The transformational power of tokenizing assets", 20 June 2024.

Monetary Authority of Singapore, Project Guardian, participants, November 2025.

Singapore International Arbitration Centre, Arbitration Rules 2025 (7th Edition), effective 1 January 2025.

UK Jurisdiction Taskforce, Digital Dispute Resolution Rules, 22 April 2021.

US Department of the Treasury, OFAC Designation of Lazarus Group, April 2022.

Protocol Documentation and Technical Standards

Coinbase, x402 payment protocol, 2025.

ERC-792, Arbitration Standard (Kleros), Ethereum Improvement Proposals.

ERC-1400, Security Token Standard, Ethereum Improvement Proposals.

ERC-1497, Evidence Standard (Kleros), Ethereum Improvement Proposals.

ERC-3643, T-REX Permissioned Token Standard, Ethereum Improvement Proposals.

ERC-7943, uRWA: Universal Real World Asset Interface (Final), Ethereum Improvement Proposals.

Google, Agent Payments Protocol (AP2), 2025.

Kleros, "How to Enforce Blockchain Dispute Resolution in Court: The Kleros Case in Mexico", blog post, January 2022. https://blog.kleros.io/how-to-enforce-blockchain-dispute-resolution-in-court-the-kleros-case-in-mexico/

Kleros, Protocol Documentation. https://docs.kleros.io

Legal Context Protocol (AAA-ICDR and Integra Ledger), launched 24 June 2026.

Mastercard, Verifiable Intent specification, v0.1 draft, February 2026. https://verifiableintent.dev; repository at https://github.com/agent-intent/verifiable-intent

UMA Protocol, "Unpacking Polymarket's Meteoric Rise", blog post, July 2024.

Wormhole, Post-Mortem Report, February 2022.

News and Industry Sources

CEX.io, research on automated and bot driven activity in on chain transfer volume, 2024.

Cointelegraph, "BlackRock's BUIDL reaches $500M AUM", July 2024.

RWA.xyz, tokenised real world asset market data, distributed asset value, 11 October 2026.

Siegel, D., "Understanding the DAO Attack", CoinDesk, June 2016.

Visa Onchain Analytics Dashboard, accessed January 2025.