GDF & ISDA US TMMF 04/02/2026
Readout

1. Executive Summary
    a. The meeting advanced the group's work across four core areas:
        i. Settlement finality for tokenized money market funds under both digital-native and digital-twin models.
        ii. Operational design considerations for using tokenized money market funds as collateral, including system integration, custody/control, recordkeeping, and interoperability.
        iii. State law analysis, especially across Delaware, New York, and Massachusetts, focused on UCC Articles 8, 9, and 12.
        iv. Sandbox Simulation #1 update, including the successful completion of three bilateral variation margin scenarios using tokenized money market funds.
    b. The discussion reinforced that, from a U.S. perspective, "settlement finality" is not a standalone universal doctrine in the same way it may be in some non-U.S. frameworks. Rather, finality depends on a combination of transaction safe harbors, anti-avoidance protections, take-free concepts, and the applicable UCC framework. The group generally aligned around the view that tokenization itself does not necessarily disrupt bankruptcy safe harbor protections, but it does raise important questions regarding classification, control, and the availability of take-free treatment.
    c. A key legal takeaway was that Article 8 remains the cleaner route where available, particularly if the tokenized asset can be structured as a security or security entitlement through clear opt-in mechanics and appropriate recordkeeping. Article 12 may offer an alternative path, but uneven state adoption, especially Massachusetts' non-adoption and New York's not-yet-effective status as of the meeting date, creates uncertainty for near-term reliance.
    d. On the operational side, participants emphasized that adoption will likely depend on integration with existing collateral and margin infrastructure rather than full market-wide redesign. Multiple speakers argued strongly against "rip-and-replace" approaches and in favor of extending today's systems to accommodate tokenized assets. The group also highlighted the importance of avoiding liquidity fragmentation across chains, protocols, and custody environments. Interoperability was treated as a critical long-term requirement, though likely beyond the immediate remit of the working group.
    e. The sandbox update was a major milestone. The first simulation successfully demonstrated end-to-end bilateral variation margin workflows using tokenized money market funds, with settlement completing in under two minutes and no manual re-keying. The next sandbox phase, planned for 29 April 2026, will expand scope to include a

CCP/FCM model, collateral optimization, substitution, and liquidation into digital cash forms.

2. Settlement Finality Discussion
    a. Framing of the issue
        i. The opening legal framing made clear that, in the U.S., settlement finality must be analyzed through specific legal doctrines rather than assumed as a general principle. The discussion focused on two principal risks that can undermine finality:
            1. avoidance risk, particularly in bankruptcy, such as preferences or constructive fraudulent conveyance claims; and
            2. competing property claims, where an allegedly wrongfully transferred asset is later claimed by a prior owner.
        ii. This framing was useful because it moved the discussion away from abstract finality and toward the concrete legal mechanisms that market participants would actually rely upon.
    b. Bankruptcy safe harbors and anti-avoidance protection
        i. For financial transactions such as swaps, repos, margin loans, and securities purchases/sales, the U.S. Bankruptcy Code safe harbors are central. These safe harbors were described as protecting not only close-out and collateral enforcement rights, but also limiting avoidance exposure for transfers made under or in connection with covered transactions. In practical terms, this means that many market participants are likely to be comfortable that the use of tokenized assets does not by itself impair anti-avoidance protection, so long as the underlying transaction falls within the relevant safe harbor regime.
        ii. A particularly important point was that this analysis is transaction-based rather than asset-form-based. In other words, if a transfer is made under or in connection with a protected swap or similar covered arrangement, the fact that the transferred asset is represented as a token rather than in conventional book-entry form should not, by itself, defeat the safe harbor analysis. This was one of the clearest points of legal comfort expressed during the meeting.
    c. Take-free protection and Article 8
        i. The more difficult issue discussed was the second limb of finality: whether a transferee can take the assets free of prior adverse claims. The speakers identified the Article 8 take-free rules as the key mechanism for this in the securities context. Under those rules, a good-faith purchaser for value can, in effect, cut off competing prior claims.
        ii. However, these protections depend on the asset fitting into an Article 8 framework. That means the tokenized interest must qualify either as a “security” under the UCC or through a custodial/intermediated arrangement that creates a security entitlement. If the asset instead falls into the “general intangible” category, the traditional Article 8 take-free rules do not apply. This was presented as a meaningful concern for tokenized structures that are not carefully designed.
    d. Article 12 as a possible supplement, but not yet a full solution

i. Article 12 was discussed as a possible avenue to address take-free and control issues for controllable electronic records. But the group emphasized that Article 12 is not yet uniformly adopted across the U.S., which limits the extent to which market participants can safely rely on it today. This led to a recurring theme of the meeting: until adoption is more complete, market participants may prefer structures that can be made to work under Articles 8 and 9.

e. Documentation implications: what should constitute "transfer"?
   i. A practical point raised was what evidence or documentation counterparties should expect in order to support finality. The discussion suggested that the key is the definition of "transfer" in the relevant collateral documentation, including the CSA or analogous documents. That definition should do two things:
      1. reflect the legally sufficient conditions for transfer under the relevant tokenization structure and issuer/custodian arrangements; and
      2. accommodate practical operational certainty, such as waiting for a specified number of blockchain confirmations or equivalent network-level finality indicators.
   ii. This was an important bridge between law and operations. The discussion implied that documentation should not merely track existing forms mechanically; rather, it may need to be revised so that it explicitly captures both legal completion and operational confidence.
f. Finality standards across networks
   i. The group discussed whether industry standards should emerge around what constitutes "reasonable finality" on particular networks, whether public or permissioned. No consensus standard was identified. The emerging view was that this may be left open in the near term for parties to define bilaterally, with possible later convergence as market practice develops. Several participants suggested that this may warrant a separate industry workstream outside the immediate focus of this group.
g. Stablecoin liquidation question
   i. A question was raised about the treatment of stablecoins in a future sandbox scenario, particularly where tokenized money market funds might be liquidated into stablecoins. The response indicated that stablecoins would not fundamentally alter the anti-avoidance analysis, but they do raise a separate issue around take-free protection. Unless Article 12 can be relied upon, a stablecoin may not enjoy the same protections as securities under Article 8, meaning competing claims could be harder to resolve. The group did not pursue this deeply, as chairs cautioned against expanding scope too far beyond the current mandate.

3. Operational Considerations for Tokenized Money Market Funds as Collateral
   a. Core operating model questions
      i. The operational segment focused on a set of foundational design questions:
         1. who holds the tokenized asset;
         2. who has authority to move it;
         3. who is recognized as the authoritative holder or controller;

4. whether books and records are maintained on-chain, off-chain, or in hybrid form;
5. how tokenized collateral workflows integrate with legacy systems;
6. how the full lifecycle can be managed holistically.

ii. These questions were discussed not in the abstract but in the context of near-term adoption and real-world collateral operations.

b. Strong preference for integration over replacement
   i. A major point of alignment across the group was that market adoption is most likely if tokenized workflows are layered into existing infrastructure, rather than requiring firms to replace current margin, collateral, and treasury systems. Participants emphasized that early market success depends on reducing barriers to entry and using tokenization as an extension of present operational models.
   ii. This view was reinforced by discussion of existing margin systems, including Acadia's infrastructure, and by the point that collateral management today already relies on a dense network of systems, workflows, and messaging standards. A future-state tokenized model should therefore accommodate that reality.

c. Hybrid recordkeeping models likely in the near term
   i. The discussion suggested that the market is unlikely to converge immediately on a single recordkeeping architecture. Instead, different issuers are using different approaches today:
      1. some appear comfortable with an on-chain books-and-records model, while maintaining off-chain copies for resilience;
      2. others remain more comfortable with hybrid or more traditional structures;
      3. jurisdiction, risk appetite, and regulatory permissions are all important variables.
   ii. The meeting did not produce a preferred end-state model, but the practical conclusion was that the industry should expect multiple initial operating models and should design systems accordingly.

d. Collateral inventory visibility and redeployment
   i. A useful operational framing emerged around the lifecycle of "long cash." Today, excess cash may be swept into a money market fund for yield, but once invested it is not readily re-deployable as collateral. Tokenization changes that by potentially allowing the investor to hold an inventory of tokenized TMMFs that can later be identified, optimized, and posted into collateral workflows.
   ii. This implies that collateral management systems must evolve to recognize tokenized positions as part of usable inventory, not merely as passive investments.

e. Need for seamless integration from margin call through settlement
   i. Participants described the target workflow as one in which exposure calculation, margin call issuance, collateral selection, bilateral agreement, settlement instruction, and transfer all occur in a tightly integrated process. The emphasis was on minimizing unilateral re-keying and reconciliation risk. One speaker

noted that current collateral settlement processes often involve a chain of separate unilateral instructions, which is operationally fragile. The aspiration for tokenized collateral is a more synchronized, shared workflow that reduces dependency on the weakest link in the network.

f. Messaging flexibility and middleware
    i. Another strong theme was the need to support multiple communication standards. Existing financial infrastructure includes FIX, SWIFT, APIs, flat files, and other formats. Participants agreed that successful adoption will require flexible connectivity rather than expecting the market to move instantly to a single standard. Middleware providers were described as playing a key role in normalizing across these forms and lowering adoption friction.
g. Interoperability and liquidity fragmentation
    i. Interoperability was one of the most strategically important topics of the meeting. Several participants warned that if tokenized TMMF liquidity becomes fragmented across chains, protocols, or isolated settlement environments, the market could recreate inefficiencies the industry is trying to solve. The stated objective should be to preserve, or approximate, a single effective pool of liquidity even if assets can settle across multiple rails.
    ii. A particularly useful formulation was that the industry should think less in terms of a security "living on one chain" and more in terms of one security being capable of settlement on multiple rails. That concept was presented as closer to the true promise of interoperability.
    iii. At the same time, the group recognized that interoperability raises technical, legal, and market-practice issues that likely exceed the scope of this working group. A suggestion was made that a separate workstream may be needed to define financial market requirements for bridging and interoperability models.
h. Issuer perspective must not be lost
    i. A cautionary note was sounded that the drive toward fluid transferability and interoperability must not ignore the issuer's perspective. If tokenized fund shares move more freely across rails or wallets, issuers may face changing redemption, AML, and investor-identity considerations. The point was not resolved, but it was clearly flagged as a material issue for future work.

4. State Law Considerations: Delaware, New York, and Massachusetts
    a. Why these jurisdictions matter
        i. The state law analysis focused on Delaware, Massachusetts, and New York because they map onto the practical structure of the market:
            1. Massachusetts and Delaware are relevant because many money market funds and custodians are organized there;
            2. New York is typically chosen as the governing law for key transaction documents.
        ii. This creates a split between issuer/custodian law and contract law that must be navigated carefully.
    b. UCC as the governing framework

i. The speaker emphasized that the UCC remains the central legal framework for these issues, but because it is adopted at the state level, differences among states matter. The positive news was that for Articles 8 and 9, there were not said to be major differences among the three relevant jurisdictions for the route most of the group is considering: structuring tokenized TMMFs as financial assets or security entitlements, including through express agreement where possible.

c. Article 12 adoption status
   i. The significant divergence lies in Article 12 adoption:
      1. Delaware: Article 12 is adopted and effective.
      2. New York: Article 12 is adopted but, as of the meeting, not yet effective; effectiveness begins on 3 June 2026.
      3. Massachusetts: Article 12 has not yet been adopted.
   ii. This is a major practical constraint for reliance on Article 12 in national market structures.

d. Mutual exclusivity between Article 8 and Article 12 routes
   i. A nuanced but important part of the discussion was that the Article 8 and Article 12 pathways are not simply cumulative. If an asset qualifies as investment property under Article 8, that tends to exclude it from controllable electronic record treatment under Article 12. Conversely, certain Article 12-covered assets are not treated as financial assets unless specific opt-in provisions apply.
   ii. The result is that market participants need to be deliberate about how they classify and structure the tokenized asset. The meeting strongly suggested that a clean Article 8 opt-in strategy may be preferable where feasible, especially because it provides a more established route for perfection, priority, and take-free treatment.

e. The "one set of records" challenge
   i. The discussion also returned to a recurring constraint in tokenized securities analysis: whether the structure can satisfy the "one set of records" concept needed to support an Article 8 opt-in and clear legal treatment. This was not fully resolved, but it was presented as one of the principal drafting and structural challenges that the market must work through.

f. Control remains central across both regimes
   i. A useful common denominator across Articles 8 and 12 was identified: control. Whether the market relies on Article 8 or Article 12, the effectiveness of the legal position ultimately depends on being able to demonstrate a clean and reliable record of control. Speakers suggested that this aligns closely with market intuition around control of the relevant wallet, keys, or authoritative records.

g. Limits of choice of law in solving Article 12 gaps
   i. A final caution was that parties cannot solve the Article 12 adoption problem merely by choosing a favorable governing law in their contracts. If a dispute lands in a jurisdiction that has not adopted Article 12, especially in an insolvency context, parties may not be able to force the court to apply Article 12. This makes incomplete state adoption a real rather than theoretical market risk.

5. Sandbox Simulation #1

a. Overall result
    i. The sandbox team reported that all three scenarios in the first tokenized money market fund sandbox simulation were completed successfully. This was presented as a major milestone for the workstream, which has been underway since January. The sandbox is intended to test in practice the legal, technological, and operational issues being discussed by the working group, using realistic but synthetic workflows.
b. Sandbox design principles
    i. Several important design principles were stated:
        1. the simulation used test data and synthetic tokens only;
        2. no real assets or real cash were used;
        3. the objective was nevertheless to mirror real-world workflows as closely as possible while preserving legal and operational integrity.
    ii. This distinction is important because it preserves the value of the operational learning while avoiding regulatory or balance-sheet consequences.
c. Participants
    i. The sandbox involved a broad set of participants across market roles, including banks/asset managers acting as pledgors or receivers, TMMF issuers represented in the simulation, and technology and infrastructure participants
    ii. The Sandbox utilizes an Ownera FinP2P Network Orchestration routers to simulate the technical components of trade flows
d. What the simulation demonstrated
    i. Across the three scenarios, the sandbox demonstrated:
        1. end-to-end bilateral variation margin workflows;
        2. use of tokenized money market funds as collateral;
        3. movement from inventory and exposure through margin call agreement to on-chain settlement and proof/reporting;
        4. settlement in under two minutes;
        5. no manual re-keying at any stage, although the demonstration was intentionally slowed down so observers could follow the process.
    ii. These are significant operational proof points. Even in synthetic form, they demonstrate that tokenized TMMFs can be inserted into recognizable collateral workflows without requiring manual intervention at every step.
e. Scenario detail
    i. Scenario 1: Partial dispute
        1. State Street called BlackRock for $4 million.
        2. BlackRock agreed to $3 million, leaving $1 million disputed.
        3. The pledge was satisfied using a mix of BlackRock, WisdomTree, and State Street tokens.
        4. Assets were on Ethereum and settled through Fireblocks.
        5. Margin was managed via Cloud Margin / Acadia.
    ii. This scenario was particularly valuable because it showed that tokenized collateral workflows can accommodate a realistic market feature: partial dispute rather than clean full agreement.

iii. Scenario 2: Full agreement / cross-custodial mobility
    1. Standard Chartered called against BBH for $2 million.
    2. The amount was agreed in full.
    3. The pledge used BlackRock and State Street tokens.
    4. Settlement occurred through GFNS.
    5. A major objective was to show cross-custodial mobility within the workflow.
iv. This scenario highlighted the importance of portability and operational continuity across different custody setups.
v. Scenario 3: Full agreement
    1. State Street called Invesco for $5 million.
    2. The amount was agreed in full.
    3. Settlement used a WisdomTree token.

f. Strategic significance of the first sandbox
    i. The sandbox appears to have validated several core propositions of the working group:
        1. tokenized TMMFs can be integrated into familiar margin and collateral workflows;
        2. bilateral margin movement can occur at materially faster speeds than many legacy processes;
        3. interoperability across systems and custody providers is tractable, at least in proof-of-concept form;
        4. dispute handling, cross-custodian settlement, and multi-token collateral pledges are feasible.

g. Next sandbox phase
    i. The next simulation is planned for 29 April 2026 and will expand the scope materially. The proposed next-step features include:
    ii. a CCP calling margin against an FCM;
    iii. collateral optimization using tokenized U.S. Treasuries against available balances;
    iv. substitution by the FCM from tokenized Treasuries into tokenized money market funds as a cheaper alternative;
    v. liquidation into different forms of digital or tokenized cash;
    vi. validation against CCP timing expectations, with liquidation timing cited at around 16 minutes.

h. The sandbox team also made an open call for additional participants, especially CCPs, FCMs, digital cash solution providers, banks, and asset managers active in clearing.

6. Key Takeaways
    a. Legal
        i. The meeting strengthened the view that tokenization does not automatically break established legal protections, but legal outcomes depend heavily on how the asset is structured and documented. Article 8 remains the preferred route where possible; Article 12 is promising but not yet dependable on a nationwide

basis. Control, authoritative records, and the correct legal categorization of the tokenized asset are central.

b. Operational
    i. The market should expect hybrid adoption, not a single end-state model in the short term. Integration with existing collateral, margin, messaging, and custody systems is likely to be the winning strategy for near-term commercialization.
c. Market structure
    i. The group is alert to the risk that tokenized collateral ecosystems could become fragmented across rails or chains. Interoperability is therefore not optional in the long run, even if it is not fully solved within this working group.
d. Proof of viability
    i. The sandbox outcomes materially improved confidence that tokenized money market funds can function in collateral workflows in a credible, low-friction way, at least in controlled conditions.

7. Action Items and Follow-Up Topics
    a. Documentation analysis
        i. Consider whether collateral documentation, including CSA definitions of "transfer," should be revised to capture blockchain-specific legal and operational finality concepts.
    b. ISDA documentation follow-up
        i. Take away comments made in the meeting regarding ISDA model provisions and possible alignment or refinement for tokenized collateral use cases.
    c. Finality standards / market practice
        i. Continue monitoring whether industry conventions emerge for how network-specific settlement finality should be defined.
        ii. Potentially recommend a separate industry workstream if standardization becomes urgent.
    d. Article 8 versus Article 12 structuring
        i. Continue assessing whether working group outputs should prioritize Article 8-compliant structures over Article 12 reliance in the near term.
    e. Interoperability and liquidity
        i. Keep interoperability and liquidity fragmentation on the issues list, even if detailed solutions sit outside this group's immediate mandate.
    f. Issuer-side controls
        i. Examine implications for AML, redemption rights, and issuer visibility where tokenized fund interests become more portable across rails and holders.
    g. Sandbox Phase 2 preparation
        i. Support onboarding of CCPs, FCMs, digital cash providers, and other participants for the 29 April simulation.