



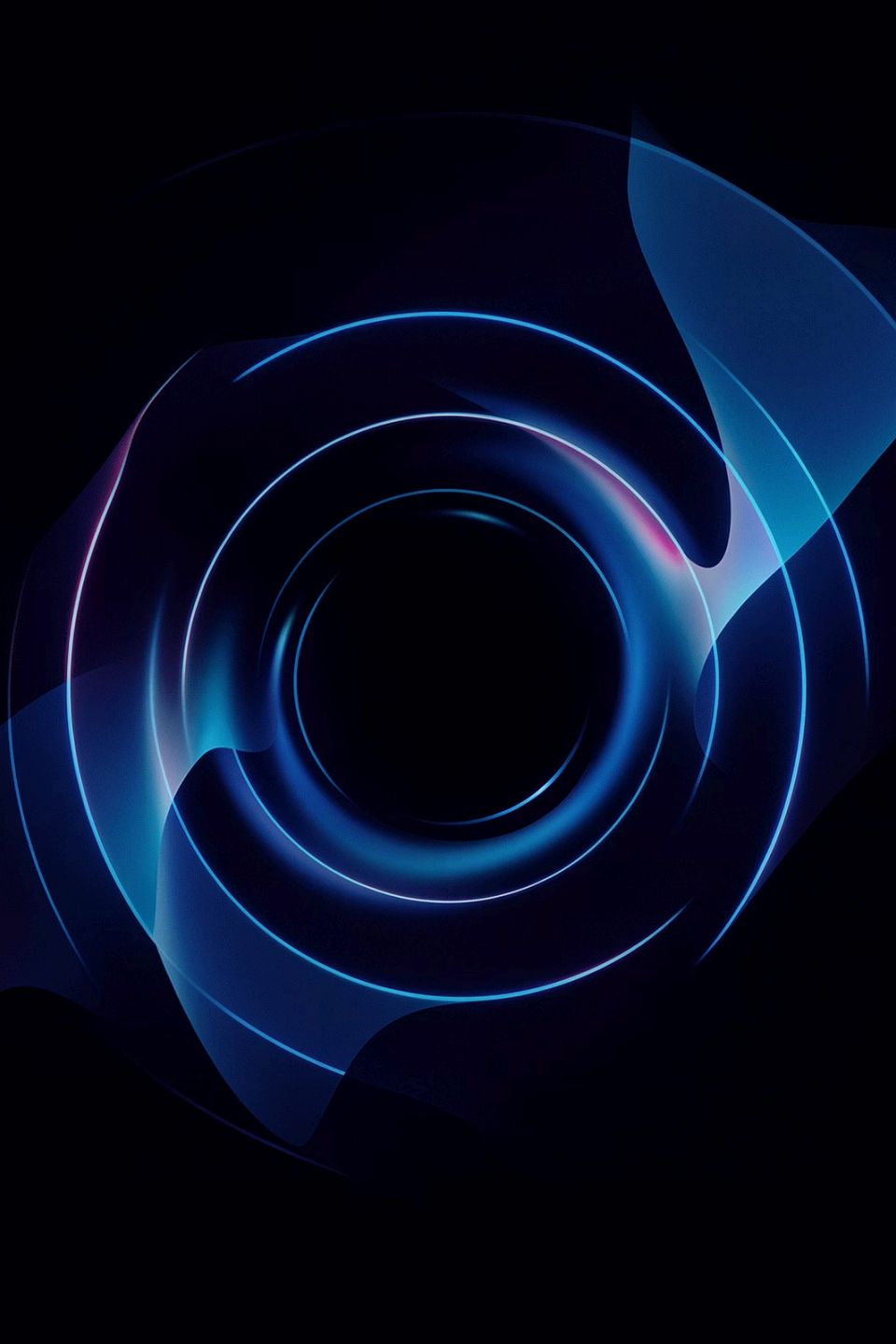
CompVA and the April 2026 Cascade

What the Signal Saw

A research briefing for Treasury and risk professionals at institutions interacting with composable digital-asset protocols. Assumes familiarity with XVA and ASC 820 concepts.

RESEARCH BRIEFING

NOT A SALES DECK



The Signal That Was There

Twenty hours before \$292 million left the system, the Composability Valuation Adjustment on a set of correlated positions moved into critical territory.

No human saw it. There was no dashboard displaying the number. But the signal was there — computable in real time from on-chain data.



The signal was a **cross-protocol risk surface** measuring how much a single tokenised asset's failure mode amplifies through a composable financial stack. The signal was elevated. The system had no way to read it.

\$292M

Left the system

20 hrs

Signal lead time

0

Dashboards reading it

What CompVA Measures

CompVA — **Composability Valuation Adjustment** — is a **Tier III** component in the Crypto XVA framework. Tier III means cross-protocol / network-level: the risk it prices is not a property of any single protocol, but of the structural relationships among protocols that share a common collateral asset.



SCC — Smart Contract Correlation

How tightly the contract logic of co-listed protocols moves together during stress. When Aave V3, SparkLend, Fluid, and Upshift all accept rsETH under similar LTV parameters, a common shock activates all four liquidation engines simultaneously.



UQL — Unified Queue Length

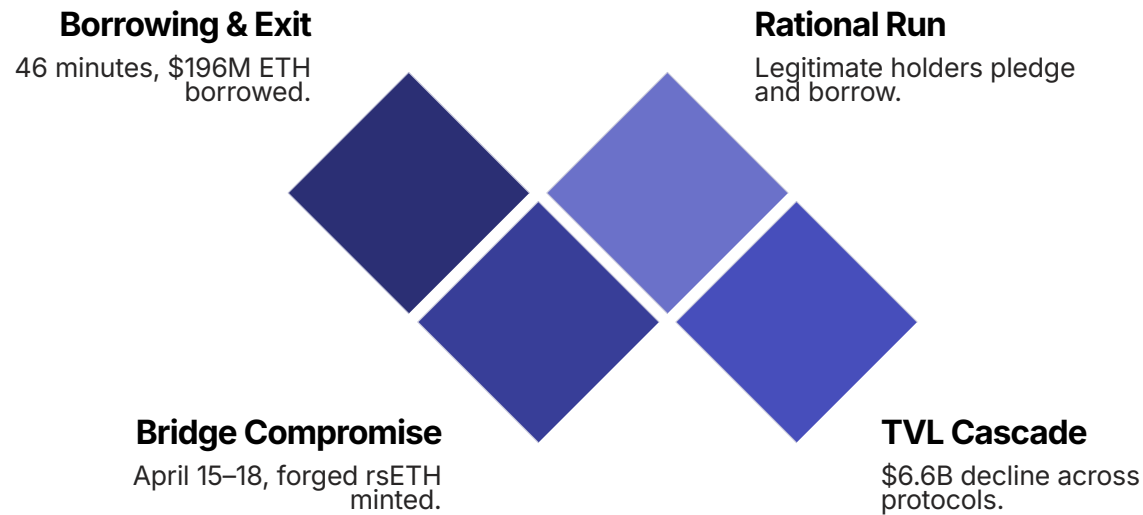
The aggregate redemption queue across all venues accepting the asset. In April, rsETH's underlying was locked in Kelp's unstaking queue. Every holder trying to exit through the side door deepened the same bottleneck.



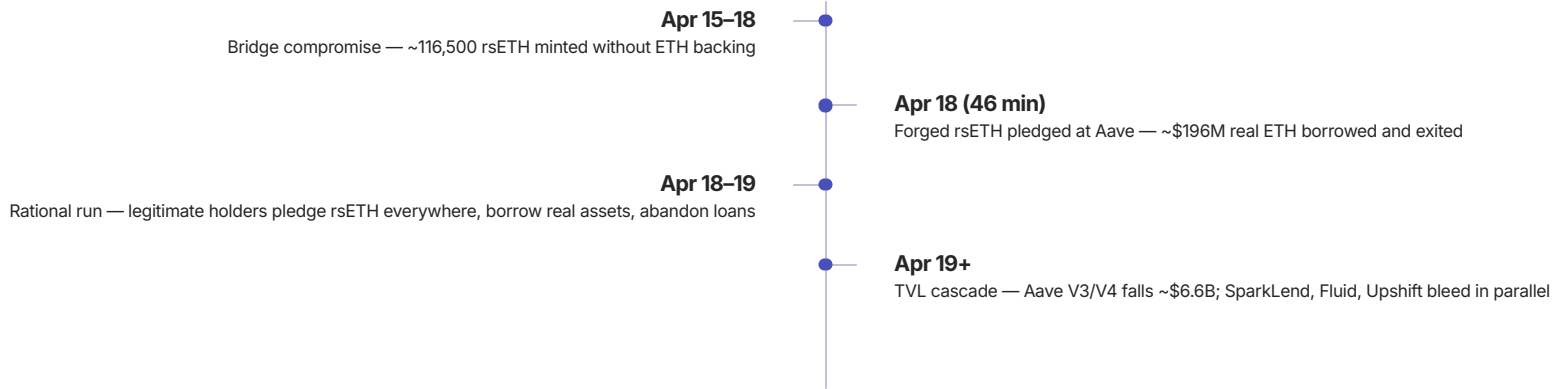
CPBUC — Cross-Protocol Borrow Utilisation Correlation

Whether utilisation rates spike together across venues. A simultaneous spike across four protocols is a cascade signal, not independent noise.

The April Cascade: Four Phases



The cascade unfolded across four distinct phases over approximately four days. No protocol rule was violated. No code was broken. The composed system behaved in a way no single participant intended — a structural failure invisible to any single-protocol risk model.



How CompVA Traced the Cascade

The three sub-factors map directly onto the four phases. CompVA composite crossed from **Warning** to **Critical** approximately 20 hours before the bridge exploit completed — not predictive in the causal sense, but the structural conditions that produce a cascade are observable before the cascade itself.

Sub-factor	What it captured	When
SCC	Structural co-listing of rsETH across four venues	Before Phase 1 completed
UQL	Queue-depth bottleneck making Phase 3 unavoidable	As Phase 2 closed
CPBUC	Simultaneous utilisation spikes across venues	During Phase 3

 CompVA composite crossed from **Warning** → **Critical** approximately **20 hours** before the bridge exploit completed. The structural conditions that produce a cascade are observable before the cascade itself.

The ASC 820 Question

Level 3 — Model-Dependent, Not Speculative

CompVA is typically **Level 3** under ASC 820 / IFRS 13. The network-propagation loss component — how much a single-issuer shock amplifies through the stack — is not directly observable from market prices. It requires a structural model of cross-protocol correlation, queue-depth dynamics, and utilisation behaviour under stress.

Level 3 does not mean speculative. It means model-dependent.

The April cascade produced a realized CompVA of material magnitude. The \$6.6B TVL decline is the historical calibration point for the network-propagation term. A model calibrated on this event would have flagged Critical before the fact.

⊗ For an institution holding positions in protocols that co-list a material collateral asset, the **Level 3 CompVA reserve is not optional**. It is the honest accounting treatment for a risk that is real, measurable in retrospect, and model-dependent in real time.

Real

The risk exists structurally
in composable stacks

Measurable in retrospect

\$6.6B TVL decline is the
calibration anchor

Model-dependent in real time

Requires structural cross-protocol correlation model

Non-Additivity: Why the Sum Is Wrong

CompVA is **not the sum of per-position terms**. Naive summation of four protocols' individual rsETH exposure understated the system-level risk in April — by design, for the same structural reason that four correlated variables are more dangerous than four independent ones.

The framework applies a **non-additivity correction** for the positive dependence among positions in the same composable stack.

 Naive addition underestimates. The correction is the honest number.

Shared Collateral Asset

Same shock activates all venues simultaneously — correlated, not independent

Common Exits

Utilisation spikes are coupled across protocols sharing the same redemption bottleneck

Pro-Cyclical Oracle Depth

The oracle becomes cheaper to manipulate exactly when cascade risk is highest

The Control Architecture

Walter Bagehot's frame applies: *lend freely in a crisis, at a high rate, against good collateral*. Three clauses, none optional.



Composability = "Freely"

Wide acceptance is what makes the system valuable. Eliminating it eliminates the capital efficiency that justifies institutional DeFi.



Risk-Adjusted Pricing = "High Rate"

CompVA, BRVA, and OVA priced into borrowing rates and collateral haircuts. The protocol that doesn't charge these rates subsidises borrowers with depositors' money until the adjustment becomes payable in full.



Supply Caps & Isolation = "Good Collateral"

Supply caps, proof-of-reserves, isolation mode, redemption-linked oracles cap blast radius. They reduce risk to the domain where pricing takes over.

❏ Controls cap the blast radius. Pricing ensures the risk-bearer is compensated. **Neither alone is enough.**

Reading the Framework

An Open Mapping, Not a Fixed List

The Crypto XVA framework is an open mapping:

R : (instrument × regime × jurisdiction) → active risk surfaces

It is not a fixed list of components. New instruments and new market regimes will activate surfaces not yet documented. CompVA was the Tier III surface activated by April 2026. The mapping evolves as the market does.

Important distinction: Tier (I/II/III) and Level (1/2/3 per ASC 820 / IFRS 13) are independent axes. Tier III is an architectural classification; Level 3 is an observability classification. They coincide for CompVA but for different reasons.

Tier I

Single-protocol /
instrument-level risk
surfaces

Tier II

Cross-instrument / venue-
level risk surfaces

Tier III

Cross-protocol / network-level — CompVA lives here

SSRN Working Paper

abstract_id 6448638

Research Site

research.crypto-xva.app

Key Takeaways

1 The signal existed before the cascade

CompVA crossed Warning → Critical 20 hours before \$292M left the system. Structural conditions are observable before the event — if you have the model to read them.

3 Level 3 CompVA reserves are required accounting

Model-dependent does not mean speculative. The \$6.6B TVL decline is the calibration anchor. For institutions with co-listed collateral exposure, the reserve is the honest treatment of a real, measurable risk.

2 Composability risk is non-additive by construction

Four correlated protocols sharing a collateral asset are not four independent risks. Naive per-position summation systematically understates system-level exposure. The correction is not optional — it is the honest number.

4 Controls and pricing are complements, not substitutes

Supply caps and isolation mode cap blast radius. Risk-adjusted pricing (CompVA, BRVA, OVA) ensures the risk-bearer is compensated. The protocol that skips pricing is subsidising borrowers until the adjustment becomes payable in full.