

STATE OF COLORADO
COUNTY OF DENVER

COMMERCIAL ARBITRATION
CONFIDENTIAL

BEFORE THE AMERICAN ARBITRATION ASSOCIATION

SYNAPSE TECHNOLOGIES, INC.,

Claimant,

v.

VERTEX GLOBAL SOLUTIONS, LLC,

Respondent.

Case No.: AAA-00298-2026

Panel: Hon. Marcus Vance (Ret.)

Hearing: October 12, 2026

SWORN AFFIDAVIT OF DR. ELENA ROSTOVA

I, **Dr. Elena Rostova**, being first duly sworn upon my oath, depose and state as follows:

I. BACKGROUND AND QUALIFICATIONS

1. I am over the age of eighteen (18) and am competent to make this Sworn Affidavit. The facts set forth herein are based upon my personal knowledge, my forensic examination of the digital evidence, and my professional analysis of the systems in question.
2. I hold a Doctor of Philosophy (Ph.D.) in Computer Science from the Apex Technical Institute, specializing in distributed systems and database transaction consistency. I have over fifteen (15) years of professional experience in database forensics and cloud architecture.
3. I currently serve as the Principal Investigator for Rostova Forensic Consulting, LLC. Prior to this role, I was a Senior Database Architect at Meridian Systems and led the Distributed Systems Engineering team at Nimbus Core. I have been certified as a Forensic Systems Analyst (CFSA) since 2015.
4. I have previously testified as an expert witness in state and federal courts, as well as in binding commercial arbitrations, on nine (9) occasions concerning database failures, data migration breaches, and intellectual property disputes.

II. SCOPE OF INVESTIGATION AND MATERIALS REVIEWED

5. I was retained by legal counsel for the Claimant, Synapse Technologies, Inc. ("Synapse"), to conduct an independent forensic audit of the data migration incident that occurred

1 between April 12, 2026, and April 14, 2026. The objective of this investigation was
2 to determine the cause of the data loss that occurred during the decommissioning and
3 migration of the database servers hosted by the Respondent, Vertex Global Solutions,
4 LLC (“Vertex”).

5 6. In conducting my analysis, I reviewed the following materials, files, and database
6 images:

- 7 • Full server transaction logs from the Vertex database node (vdb-node-04)
8 spanning April 10, 2026, through April 15, 2026;
- 9 • Configuration files for the Meridian Migration Engine (version 4.2.1-prod);
- 10 • Database schema definitions for the Synapse application server;
- 11 • The Service Level Agreement (SLA) and Migration Protocol Agreement signed
12 by Synapse and Vertex on January 15, 2026;
- 13 • System logs, error reports, and database dump files extracted from the target
14 Synapse destination cluster.

15 **III. CHRONOLOGY OF THE MIGRATION INCIDENT**

16 7. On April 12, 2026, at approximately 22:00:00 Mountain Standard Time (MST), the
17 scheduled database migration began. The task was designed to move approximately
18 4.8 terabytes of active customer data from the Vertex-hosted legacy SQL cluster to
19 Synapse’s newly established cloud instance (the “Nimbus Database”).

20 8. According to the system logs, the Meridian Migration Engine successfully initialized
21 and executed Phases 1 through 3, which involved copying static configuration tables
22 and archived read-only data.

23 9. At 22:14:32 MST, during Phase 4 (live transactional synchronization), the migration
24 logs report a critical synchronization lock on the primary ledger table, nexa_ledger.
25 This lock halted the forward-replication queue, creating a backlog of unprocessed
26 transactions in the cache.

27 10. At 22:15:10 MST, the logs indicate that a force-override command (command ID:
28 SYS_FORCE_BYPASS) was executed from the IP address 192.168.42.105, which is
associated with a Vertex network administrator’s internal workstation.

This bypass command forced the migration engine to skip the verification of standard
transaction boundaries, effectively terminating the database locks and forcing the
system to write data to the target Nimbus Database without verifying foreign key
integrity or transactional consistency.

IV. TECHNICAL ANALYSIS OF THE APEX CORE FAILURE

12. My technical analysis focuses on the bypass of the standard transactional safety protocols, specifically the **Apex Core** synchronization framework. The Apex Core protocol is designed to ensure strict ACID (Atomicity, Consistency, Isolation, Durability) compliance across distributed nodes.
13. When the bypass command was executed, it deactivated the two-phase commit (2PC) mechanism of the Meridian Migration Engine. Under normal operations, a two-phase commit ensures that a transaction is either committed on both systems (Vertex and Synapse) or rolled back entirely if a failure occurs.
14. By deactivating the two-phase commit mechanism, the database entered an inconsistent state. Transactions were marked as “completed” on the source Vertex servers but were never successfully written to the destination Nimbus Database.
15. Specifically, a total of 14,242 transaction blocks (amounting to approximately 14.2 gigabytes of critical financial and user data) were dropped. The relevant error logs are summarized in the table below:

Timestamp	Affected Table	Error Code	Dropped
22:14:35	nexa_ledger	ERR_LOCK_TIMEOUT	4,812
22:15:12	synapse_users	ERR_FK_VIOLATION	2,904
22:15:45	meridian_billing	ERR_WRITE_ABORT	5,110
22:16:10	apex_sessions	ERR_DIRTY_READ	1,416

16. The missing 14.2 gigabytes of data represents critical historical records. Because the force-override command bypassed the rollback logs, these dropped records cannot be reconstructed from the destination database and are permanently lost unless recovered from physical backups.

V. EXPERT OPINIONS AND CONCLUSIONS

17. Based on the forensic evidence, it is my professional opinion that the critical data loss suffered by Synapse was a direct result of the unilateral decision to execute the SYS_FORCE_BYPASS command. The loss of data was not caused by a hardware failure, network outage, or software bug, but rather by manual administrative intervention.
18. Standard industry practices for database migrations strictly prohibit the use of bypass overrides in production environments. The execution of the force-override command

was a clear deviation from standard protocols and directly violated Section 4.2 of the Migration Protocol Agreement.

FURTHER AFFIANT SAYETH NAUGHT.

Dr. Elena Rostova
Principal Investigator
Rostova Forensic Consulting, LLC
Affiant

NOTARY ACKNOWLEDGEMENT

STATE OF COLORADO)
) ss.
COUNTY OF DENVER)

The foregoing Sworn Affidavit was subscribed and sworn to before me this _____ day of July, 2026, by **Dr. Elena Rostova**, who proved to me on the basis of satisfactory evidence to be the person who appeared before me.

PLACE NO-
TARY SEAL
HERE

Notary Public Signature

My Commission Expires: _____