

Machine-Readable Paper

Diligence cost is a pricing input. A pool the buyer has to rebuild gets a wider bid than a pool where every field carries its provenance and every decision carries its lineage.

Robert S. Stewart Jr.

FOUNDER & CEO, CR EQUITY AI, INC.

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2x COMPOUNDING: AT UNDERWRITING, THEN AGAIN AT DISTRIBUTION	4 STANDARD EXPORTS FROM ONE CANONICAL RECORD
100% FIELDS CARRYING A STORED PROVENANCE CLASS	Day 1 WHEN THE DILIGENCE PACKAGE IS AVAILABLE

Two pools, same collateral, same coupon, same weighted average life, same sponsor concentration, same geography. One arrives as a folder of scanned documents, a spreadsheet built by hand, and an offer to answer questions by email. The other arrives as a structured tape where every field carries a stored provenance class, every credit decision carries a reproducible lineage, and the documents are indexed to the fields they support.

They will not clear at the same price. Not because the credit is different, but because the buyer's cost to underwrite the first pool is materially higher — and buyers charge for that cost. They always have. What has changed is that it is now possible to eliminate it at origination rather than absorb it at sale.

SECTION 01

What a buyer actually rebuilds

Ask anyone who has run third-party review what diligence consists of, and the answer is rarely "assessing credit." It is reconstruction. Someone re-keys the tape from documents. Someone verifies that the stated coverage matches the operating statement in the file. Someone confirms that the value used for sizing is the value in the appraisal and not an earlier draft. Someone reconciles the note, the security instrument and the tape to each other and finds three disagreements.

EXHIBIT 1

Where diligence effort goes

Typical review tasks on a small-balance pool, and what changes when the origination record is structured.

REVIEW TASK	UNSTRUCTURED POOL	STRUCTURED ORIGINATION RECORD
Tape construction and validation	Manual re-keying from documents; sampling for error rate.	Tape is the source record, exported directly. No re-keying step.
Data-to-document reconciliation	Reviewer locates the supporting page for each material field.	Each field references the document and extraction event that produced it.
Credit policy compliance	Reviewer infers policy from the memo and tests judgmentally.	Policy version in force at decision is stored; the file re-runs against it.
Exception identification	Exceptions discovered by reading memos, often incompletely.	Exception register enumerates every departure, operand and approval level.
Valuation support	Appraisal read manually; comparable screening not reproducible.	Method, comparable set, exclusions and confidence band retained.
Servicing transfer	Boarding file assembled ad hoc; data loss at handoff is routine.	Standard boarding schema exported; handoff and return are round-trip capable.
Comparison of review effort by record structure. Actual diligence scope is set by the buyer, the review firm and applicable rating criteria.		

Every row in that table is a cost, and costs on the buy side are recovered in the bid. An originator who has not thought about this has effectively decided to subsidize its buyers' operations out of its own execution.

SECTION 02

Provenance and lineage as tradeable attributes

Two properties of a loan record do most of the work in converting diligence effort into diligence confidence.

Field-level provenance. Every stored value carries the class of evidence behind it: self-declared by the borrower, verified against an identified document, derived from a named third-party source, or produced by a model with the method recorded. A buyer can immediately quantify how much of the pool rests on verified inputs versus asserted ones — which is a genuine credit distinction that unstructured pools simply cannot express.

Decision lineage. Every credit outcome retains its inputs, the version of the credit policy in force at decision, the computed intermediate values, and the approval path. This is what makes a decision *reproducible* rather than merely documented. A reproducible decision can be tested at scale by sampling and re-running; a documented one can only be read.

A pool that can be re-run is diligenced by exception. A pool that can only be read is diligenced by exhaustion.

SECTION 03

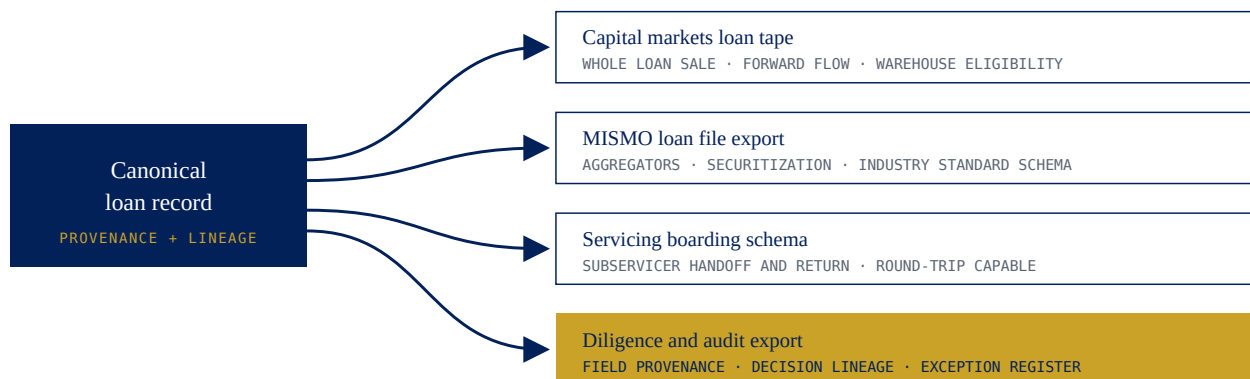
One record, four exports

None of this is useful if it cannot leave the building in a form the counterparty already consumes. The discipline that makes export possible is a single canonical data contract enforced across intake, the underwriting engine, the CRM and every partner-facing form — so that a field means one thing everywhere it appears.

EXHIBIT 2

The export surface

One internal record, four standard outputs, each serving a different counterparty.



Export surface as designed. Specific schema versions and field coverage are provided to counterparties under diligence.

SECTION 04

What this means for warehouse and forward flow

The practical consequences show up in three places, and they are worth stating plainly because they are the reason this is a capital markets paper rather than a technology one.

Warehouse eligibility testing. Advance rates depend on the lender's ability to confirm that collateral pledged meets the eligibility criteria. When eligibility can be evaluated programmatically against a structured tape rather than by sampling files, the testing burden drops and the borrowing base becomes something both sides can agree on continuously rather than monthly.

Forward flow. A flow agreement is a promise to originate to a specification. That promise is only enforceable if the specification is expressible as data and testable at delivery. Structured origination makes flow programs administrable at small balance sizes where they have historically been impractical.

Repurchase risk. Most repurchase demands originate in a data or documentation discrepancy rather than a credit failure. Reconciling the tape to the file at origination — because they are the same object — removes a large share of that exposure before the loan is ever sold.

SECTION 04B

The unglamorous discipline underneath

Everything above depends on a single, tedious commitment that most origination platforms never make: one definition per field, enforced everywhere the field appears.

The failure is easy to describe and almost universal. "Loan amount" means the requested amount in the application, the approved amount in the credit memo, the funded amount at closing and the current balance in servicing. Four values, one label, four systems that each believe they hold the truth. Nobody notices until a tape is assembled and the numbers disagree — at which point someone reconciles by hand, and the reconciliation itself becomes an undocumented judgment embedded in the pool.

A canonical data contract fixes this by making the definition the governing artifact rather than the implementation. Each field has one name, one type, one unit, one set of permitted values and one authoritative owner. Intake forms, the underwriting engine, the CRM, partner-facing submission forms and every export bind to that contract rather than to each other. When a definition must change, it changes in the contract and versions forward — with a documented breaking-change policy, because counterparties consuming your exports have built against a schema and are entitled to notice.

The cost of this discipline is real and it is paid upfront, in slower feature delivery and in arguments about definitions that feel unproductive at the time. The benefit does not appear until the first serious diligence exercise, at which point it appears all at once: the tape ties to the files because the tape *is* the files, the exports agree with each other because they derive from one record, and the questions a reviewer asks are answered by query rather than by research.

It is worth being direct about the sequencing here. You cannot retrofit this. Provenance that was not captured at the moment of extraction cannot be reconstructed afterward, and decision lineage that was not retained at the moment of

decision is gone. The architectural choices that determine whether your paper is machine-readable are made years before anyone asks to buy it.

SECTION 05

What we can hand you on day one

The closing argument is an invitation rather than a claim. Any originator asking an institution to warehouse, purchase or commit forward capital to its production should be able to produce, without a project:

- ◆ A loan tape with a documented schema and defined field-level definitions.
- ◆ A standards-based loan file export for a live sample.
- ◆ A servicing boarding file and evidence of a completed round-trip handoff.
- ◆ An exception register covering the full production cohort, not a selection.
- ◆ The credit policy version history, with the ability to re-run any closed loan against the policy in force on its decision date.

We can. That is a deliberate architectural decision made years before it produced a commercial benefit, and it is the second place AI-native origination compounds: once when it lets you underwrite more files at a consistent standard, and again when the record it produces is worth more to the person who buys it.

Origination technology is usually pitched as a cost story. It is more accurately a spread story. The paper is the product, and machine-readable paper is better paper.

Robert S. Stewart Jr. is Founder and Chief Executive Officer of CR Equity AI, Inc., an AI-native specialty real estate private credit and commercial lending platform. A U.S. military veteran and licensed real estate professional in Florida and Virginia, he founded CR Equity AI in 2021 and leads development of AIVAA™, the firm's proprietary underwriting and valuation engine. [Learn more at crequity.ai/aivaa](https://crequity.ai/aivaa).

SOURCES & FURTHER READING

1. MISMO — residential and commercial data standards and loan file specifications.
2. Rating agency and third-party review firm diligence criteria for whole loan and securitized pools.
3. Structured Finance Association — data transparency practices.
4. Bloomberg — securitization and private credit transparency coverage.
5. Yahoo Finance and Forbes — specialty finance cost of funds and private credit institutionalization commentary.

FOR INSTITUTIONS

Diligence us before you need to.

We will provide the loan tape schema, the MISMO export, the servicing boarding file and a sample diligence package with field-level provenance and decision lineage — on a live pool, under NDA.

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