FFERM™ RISK INTELLIGENCE PLATFORM

Banking Edition

Purpose-built for banks and depository institutions

Regulated by: OCC | FDIC | Federal Reserve | FinCEN | FFIEC

Patent Pending | Version 4.0 | August 2026

Platform Overview

The FFERM™ Risk Intelligence Platform — Banking Edition is an AI-powered intelligence overlay purpose-built for banks and depository institutions. It enhances any existing GRC system (ServiceNow IRM, Jira Cloud, Archer, MetricStream, LogicManager, LogicGate, OneTrust, AuditBoard) with banking regulatory analytics and machine-learning risk intelligence that traditional platforms do not deliver.

Operating as an intelligent layer on top of existing GRC investments, FFERM Banking delivers a 22–35× performance improvement by automating what human risk analysts do — in under one second rather than days. Serves institutions from $500M to $250B+ in total assets.

The Patent-Pending Four-Factor Methodology

Compounding (C)
How risk effects build and amplify over time — captures cascading, systemic, and time-amplified exposures.

Severity (S)
Impact level and financial/operational consequences of the risk materializing.

Likelihood (L)
Probability of the risk occurring — aligned to institutional history and sector benchmarks.

Predictability (P)
How foreseeable the risk is. Inverse-weighted: lower predictability = higher risk score. Captures black swans.

H/L convention. High is high-risk for Compounding, Severity, and Likelihood; Predictability is inverted — *low* predictability is high-risk. The 16 binary patterns run from the worst case (HHHL) to the best case (LLLH), each mapping 1:1 to a risk archetype and one of four risk zones. The composite score is the **FFERM Risk Index (FRI)**.

Banking Regulatory Intelligence

A complete regulatory data pipeline connecting FFIEC Call Report data directly to FFERM risk scoring — enabling proactive capital management, CAMELS preparation, and DFAST/CCAR stress testing in a single integrated platform.

Module Component	Capability
FFIEC Call Report Integration	CDR REST API connection to the Federal Reserve Central Data Repository. Quarterly import of balance sheet, income statement, capital ratios, asset quality, and liquidity metrics. Institution search by RSSD ID with peer group identification.
DFAST / CCAR Stress Testing	Nine-quarter capital trajectory projections under four scenarios: Baseline, Severely Adverse, Funding Stress, and Rate Shock. Non-linear stress curves with acceleration and stabilization factors. Stress Capital Buffer (SCB) calculation. Pass/fail against 12 CFR 6.4 PCA thresholds.
CAMELS Assessment	Six-component ratings (Capital, Asset Quality, Management, Earnings, Liquidity, Sensitivity) on a 1–5 scale, derived from FFIEC data. Management component double-weighted per regulatory guidance. Composite rating with automatic identification of areas of concern.
Safety & Soundness (12 CFR Part 30)	Appendix A universal compliance (internal controls, audit, credit underwriting, interest rate risk). Appendix D best-practice standards for the largest institutions. Overall compliance scoring with FFERM capability alignment and enforcement context drawn from current OCC supervisory actions.
FFIEC-to-FFERM Correlation	13 financial metrics mapped to the FFERM Four Factors via weighted correlation formulas. Compounding: systemic interconnection and concentration. Severity: capital adequacy and liquidity stress. Likelihood: asset quality deterioration and earnings weakness. Predictability: trend consistency over time. Top risk drivers identified automatically.
Scenario & Reverse Stress	Institution-specific shock library, reverse stress testing to identify the conditions that would breach appetite, and Monte Carlo VaR/CVaR portfolio tail estimation.
AI Risk Advisor Integration	Capital ratios, stress test results, and CAMELS ratings injected into the advisory system for context-aware recommendations. Stress test failures trigger urgent capital planning alerts; CAMELS component weaknesses drive targeted improvement guidance.

BSA/AML Compliance Assessment — Banking

Automated evaluation of the institution's Bank Secrecy Act and Anti-Money Laundering program against FinCEN regulations (31 CFR Chapter X), the FFIEC BSA/AML Examination Manual, and OCC supervisory guidance — scored across all five pillars.

Pillar / Component	Scope
Pillar 1 — BSA Officer & Board Oversight	BSA/AML Compliance Officer designation and board-level oversight structure.
Pillar 2 — Policies, Procedures & Controls	Written BSA/AML policies, procedures, and internal controls.
Pillar 3 — Employee Training	Ongoing BSA/AML training program — scope, frequency, and documentation.
Pillar 4 — Independent Testing	Internal audit requirements and third-party independent testing.
Pillar 5 — CDD & CIP	Customer Due Diligence and Customer Identification Program, including the Beneficial Ownership Rule (31 CFR 1010.230) for legal entity customers.
Transaction Monitoring & Reporting	SAR filing history and status tracking. CTR compliance monitoring (31 CFR 1010.311). OFAC sanctions screening documentation. Enhanced due diligence tracking for PEPs and MSBs.
Regulatory Alignment	FinCEN advisories and geographic targeting orders. Examination history tracking for OCC, FDIC, and Federal Reserve. CAMELS integration — BSA/AML scores inform the Management (M) component.

GRC Integration Layer — 7 Platform Connectors

Bidirectional sync with all major GRC platforms, enabling FFERM to operate as an intelligence overlay without disrupting established workflows.

Platform	Integration Method
ServiceNow IRM	REST API with OAuth 2.0 authentication — production-tested
RSA Archer	Session-based SOAP/REST integration
MetricStream	REST API with OAuth 2.0
LogicManager	REST API with API key authentication
LogicGate Risk Cloud	REST API with OAuth 2.0 / API key
OneTrust	REST API with OAuth 2.0
AuditBoard	REST API with API key authentication

Sync capabilities: pull risks from the GRC into FFERM for ML analysis, push FFERM scores and anomalies back, hourly/daily/weekly scheduling, custom field mapping, and conflict resolution with complete audit trails.

Analytical Foundation & Model Governance

FFERM is a quantitatively rigorous system, not a black box. The engine comprises **147 analytical implementations across eight categories**: 90 deterministic calculations, 9 true machine-learning models (3 supervised, 5 unsupervised, 1 reinforcement learning), 25 statistical methods, 8 financial and regulatory computations, 8 generative-AI components, and 7 agentic workflows. The deterministic core means every score is reproducible, decomposable, and explainable on examination.

Governance Element	Detail
Supervisory Alignment	Aligned to the Interagency Revised Model Risk Management Guidance — Federal Reserve SR 26-2, OCC Bulletin 2026-13, and FDIC FIL-15-2026 (April 17, 2026). Examiner-facing scope presented as 7 engines / 35 implementations across scope classes A through D.
Model Inventory Tiering	Tier 1: FRI, Dynamic Risk Score, control-failure prediction, regulatory pre-alert. Tier 2: Tail Score, Adjusted Risk Score, Interaction Index, culture metrics. Tier 3: Monte Carlo, PCA, drift analysis, sensitivity testing.
GenAI Controls	Generative-AI components operate behind a prompt and data firewall with human-in-the-loop review and a seven-year audit trail. GPT-based factor assessment feeds the FRI only after review; validation completed July 2026.
Validation Methods	K-fold cross-validation, sensitivity analysis, normality testing, and back-testing against the production risk population. Model validation artifacts are maintained separately from model development for independent-review defensibility.

Shared Platform Capabilities

The following enterprise-grade capabilities are included in every FFERM edition as standard components.

Four-Tier Analytics Framework

Descriptive → Diagnostic → Predictive → Prescriptive. Risk distribution, ML anomaly detection, 6-month forecasting, scenario modeling, and budget optimization.

AI Risk Advisor

Conversational executive advisory system. Analyzes the complete risk portfolio in real time and generates 4–6 personalized strategic recommendations per session, behind the GenAI control framework.

ML-Powered Risk Intelligence

Isolation Forest anomaly detection, Interaction Index (IX), Tail Score for black swan identification, Monte Carlo simulation, and 10 ML-derived risk archetypes.

Risk Culture Intelligence Engine

Five proprietary metrics: Cultural Stability Tensor (CST), Culture Resilience Score (CRS), Culture Pulse Index (CPI), Bayesian Risk Sentiment (BRSI), and Issue Response Velocity (IRV) — plus control-failure prediction.

Risk Zones & Quadrants

Four multi-dimensional classification zones built from FFERM factor trios: Systemic Crisis, Gray Rhino, Traditional Risk, and Black Swan Detection — far beyond a 2D heat map.

Market Watch

The second platform pillar alongside Risk Intelligence. Macroeconomic, sector, peer, and climate exposure signals translated into FFERM factor adjustments — shared across all five editions.

Threat Intelligence Engine

AlienVault OTX integration with MITRE ATT&CK alignment. Ingests threats on a six-hour cycle and auto-maps them to the FFERM Four Factors — zero manual input required.

Enterprise Control Framework

Centralized control library with many-to-many junction architecture. High-reliance controls reduce residual risk 40%; medium 20%. Complete audit trail for regulatory production.

Risk Treatment Lifecycle

Full treatment management: Avoid, Transfer, Mitigate, Accept, Exploit. Planned → In Progress → Completed workflow with cost tracking, effectiveness ratings, and overdue alerts.

Prescriptive & Budget Optimization

Treatment ROI ranking with per-factor impact and confidence scoring, feeding a budget allocation optimizer that returns the funded treatment set maximizing risk reduction per dollar.

Governance Maturity Assessment

20-question evidence-based assessment across 10 dimensions. Produces a personalized FFERM Advancement Roadmap mapping platform features to each of five maturity stages.

Role-Based Delivery

Tailored dashboards for 16 institutional roles across the three-lines model, including a read-only Regulator/Examiner view whose framework switches with the edition.

Key Differentiators

FFIEC CDR → FFERM Pipeline

The only platform connecting live FFIEC Call Report data directly to FFERM factor scoring. CAMELS ratings and DFAST results automatically inform AI Risk Advisor recommendations — no manual data re-entry.

Enforcement Action Track

Banks under active OCC, FRB, or FDIC consent orders qualify for a targeted deployment track designed around enforcement remediation obligations and heightened supervisory expectations.

22–35× Performance Improvement

Replaces multi-day manual risk analysis cycles with sub-second processing — validated across 6,000+ risks ingested and 4,481 fully scored in live ServiceNow production.

Platform Traction & Intellectual Property

Patent Pending

USPTO provisional applications filed covering the Four-Factor methodology, machine-learning implementations, the Risk Quadrant framework, and industry-specific intelligence modules, with non-provisional applications in preparation.

Production Validation — ServiceNow IRM

6,000+ enterprise risks ingested and 4,481 fully scored through the FFERM Four-Factor engine in live ServiceNow production — establishing enterprise-scale performance benchmarks in a real GRC environment.

700+ Newsletter Subscribers

The Risk Strategist newsletter provides ongoing thought leadership in enterprise risk economics, building a pre-qualified financial services risk professional audience.

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