

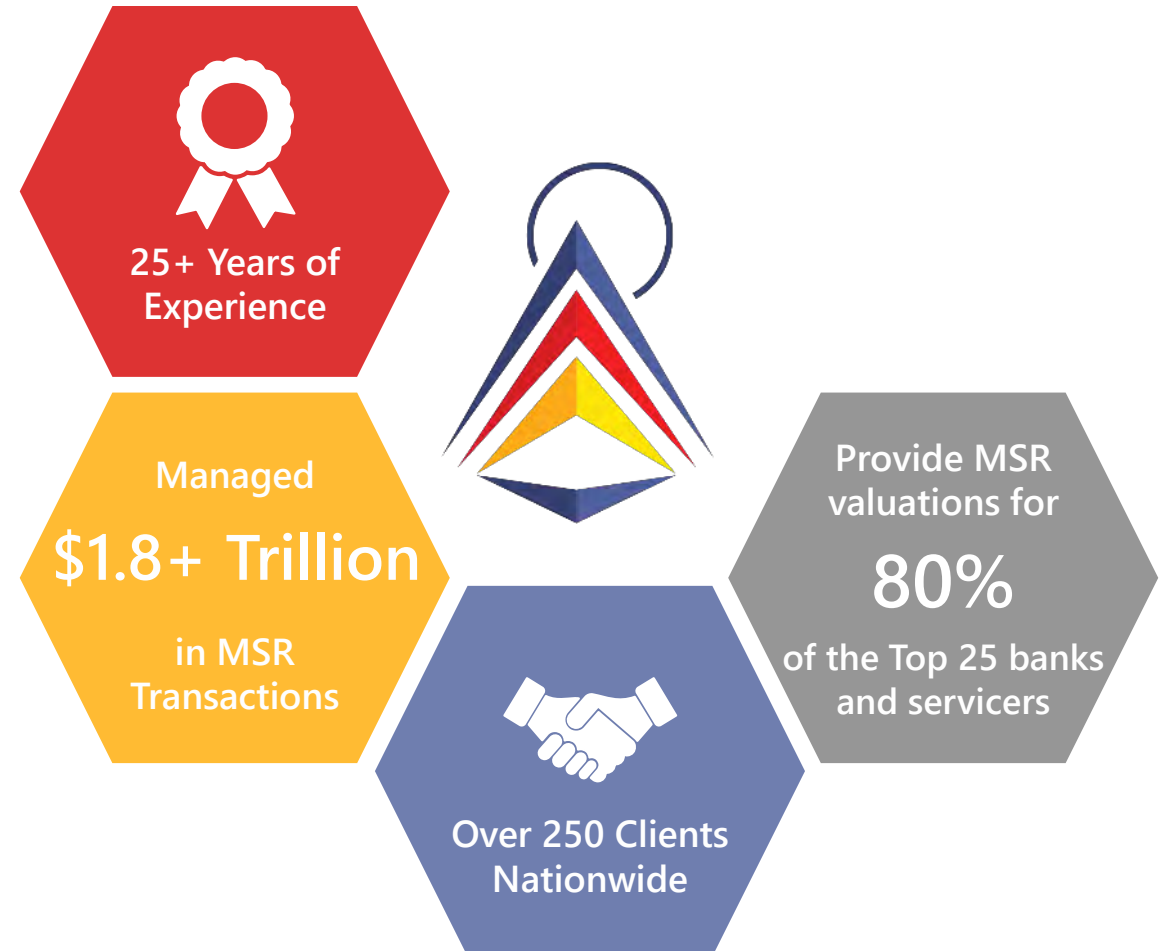
PHOENIX Services Overview



PHOENIX Corporate Overview

PHOENIX provides clients with an unparalleled level of service, depth of knowledge and experience in all facets of MSR and Whole Loan transactions.

Our knowledge base and expertise extends across the industry and includes transaction solutions for portfolio valuation, servicing oversight, quality control, TPR due diligence, and REO disposition.



Why PHOENIX



PHOENIX offers unparalleled market insight. Analytics operates side-by-side with the trading desk, which has traded over \$1.8 Trillion of MSRs and more than \$4 Billion of Whole Loans since 2014.



The PHOENIX Analytics desk has an active client base of over 250 firms, including large depositories, private investment funds, REITs, IMBs, community banks, and credit unions. In 2022, Analytics valued over \$52 trillion in servicing rights, including 80% of the top 25 mortgage servicers comprised of over 2,400 individual market-to-markets.



PHOENIX Analytics leadership average over 10 years of MSR valuation experience. Our 10 full-time analysts, focused on MSR and Whole Loan valuations, hold a common goal to ensure clients receive the most comprehensive and responsive level of service in the industry. PHOENIX Analytics prides itself on being a high-touch service provider.



The unique PHOENIX approach is for the analyst to manage both data and valuation. This allows the analyst to have an in-depth understanding of a client's portfolio and valuation results, positioning PHOENIX to be the premier advisor.

PHOENIX Business Lines



Trading

MSR & Whole Loan auction
and advisory services

- MSR Brokerage
- Sale Evaluation & Strategy
- Buy-side Representation
- Ongoing Transaction Support
- Whole Loan Trading
- Principal Acquisitions
- Loan Sale Advisory

Mortgage Services

Asset management, servicing/loan
QC & component services

- Advisory
- Loan Level Due Diligence & Securitization Services
- Business Process Review & Fulfillment
- RFP Management
- Default Servicing/REO
- Servicing Oversight
- Surveillance
- Mortgage & Servicing QC
- Asset Management

Analytics

MSR & Whole Loan analytics,
valuations and advisory

- MSR valuation
- Mark to market
- SRP analysis
- Acquisition analysis
- Economic valuation
- Accounting
- MSR asset management
- Whole Loan valuation
- Bulk Sale Tax Analysis



The background of the image is a solid dark blue. On the right side, there is a large, stylized, light blue graphic that resembles a phoenix or a series of overlapping chevron-like shapes pointing upwards and to the right. The text "PHOENIX Trading" is written in a white, sans-serif font, positioned on the left side of the image, partially overlapping the dark blue background and the light blue graphic.

PHOENIX Trading

PHOENIX MSR & Whole Loan Trading Services

MSR Sale Advisory Consultations

- Evaluating client specific market selling conditions
- Running preliminary market portfolio valuations
- Transaction cost estimates

Bulk MSR Brokerage

- Data scrubbing and analysis
- Formal Offering preparation
- Bid pricing, eligibility, terms and conditions comparison and analysis
- Contract negotiation
- Ongoing transaction support

Flow MSR Brokerage

- Data scrubbing and analysis
- Formal Offering preparation
- Pricing grid, eligibility, terms and conditions comparison and analysis
- Contract negotiation
- Ongoing price execution support

Whole Loan Brokerage

- Data scrubbing and analysis
- Principal acquisitions
- Preparation of funding schedules and reconciliation
- Trading

Whole Loan Sale Advisory Services

- Portfolio Analysis
- Pre-sale Deal Preparation
- Marketing
- Execution & Closing

Buyside Representation

- Deal sourcing
- Contract creation
- Loan Level due diligence
- Market based valuation modeling



PHOENIX's Transaction Management Division

PHOENIX is the only MSR advisor to offer the following services through its Transaction Management Division (TMD):

- Quantitative and Qualitative Bid Analysis:
 - Comprehensive analysis of each bid including:
 - Economics of pricing and terms including transaction costs (properly analyzing and understanding each bidder's pricing and terms is vital to achieving best execution)
 - Operational strengths and weaknesses of each potential buyer
- Purchase & Sale Agreement and LOI Support: executives averaging over 25 years of active involvement negotiating MSR agreements provide unmatched expertise negotiating the key economic, pricing, and operational terms of an agreement and LOI
- Transaction Timeline Management: Weekly progress phone calls with buyer and seller between executed LOI date and sale date to ensure all milestones are achieved and the transaction funds
- Trade Settlement Support: Comprehensive support with settlement calculations and ongoing support with holdbacks
- Execution Monitoring: Execution review over time to ensure pricing stays at the top of the market



PHOENIX Sale Process Outline

PHOENIX's Transaction Management Division ("TMD") offers unrivaled support for our sellers. Our team of ten senior transaction managers and analysts ensure a smooth and efficient transaction process from the initial offering through transfer to the settlement of the holdback.



NDA is required more often for large bulk transactions but can be utilized for co-issue transactions as well

PHOENIX Whole Loan Trading Services

PHOENIX can efficiently close any transaction and provide our clients with needed liquidity regardless of the transaction terms or loan characteristics. In addition to extensive market coverage of outside trading partners, PHOENIX also exclusively represents buy side funds which affords greater flexibility to purchase a wide variety of asset classes.



Trading services

PHOENIX's active trading desk provides clients with a single point of contact for transactions with multiple exit strategies. This maximizes execution, reduces client resource allocation, and increases transaction success by leveraging our skilled due diligence, transaction support, and contract finance team to manage often complex multi-trade and closing formats.



Buyer services

The PHOENIX team has assisted our clients with thousands of transactions totaling billions of dollars annually. This direct experience allows the PHOENIX team to properly match buyers and sellers together for the trade that optimizes outcomes for all parties.



Principal buyer services

PHOENIX is a principal purchaser of residential mortgage loans. PHOENIX will purchase one loan or a total portfolio, whichever strategy serves the client's needs.



PHOENIX Loan Sale Advisory Services

The PHOENIX Loan Sale Advisory platform is a carefully assembled suite of services that ensures the highest probability of a successful trade which meets & exceeds the client's expectations. Our Whole Loan team has decades of experience as both a buyer and seller of loans. This perspective provides market intelligence that cannot be replicated through providing brokerage services alone.



- Provide detailed portfolio analysis, stratification reports and market pricing expectations
 - Discuss client expectations, requirements and evaluate additional information as needed
 - Define market pricing estimates, established current market conditions and recommend offering strategies
- Re-underwrite loan files in order to create accurate and up to date dataset, as well as obtain updated property valuations, title reports, and credit reports
 - This perfected dataset means that buyers will bid with high confidence and have little opportunity to adjust their bid
 - Finalize sale structure and offering materials
- Administer broad marketing efforts to ensure visibility to all potential buyers while simultaneously pursuing distinct investors known to target the specific asset class
 - Create, maintain, and monitor secure data and due diligence room for potential buyers
 - Customize and negotiate Confidentiality Agreements and Purchase & Sale Agreements to maximize price and minimize risk
- Continuous market intelligence gathering in tandem with bid success probability discussions
 - Provide quantitative and qualitative bid analysis to ensure best execution while simultaneously mitigating counterparty and ongoing risk
 - Manage buyer's due diligence exception reporting
 - Handle closing logistics including creating funding schedule and ensure agreements are finalized and executed





PHOENIX Mortgage Services

PHOENIX Mortgage Services

Due Diligence & TPR Loan Reviews

- TPR Flow/Bulk Loan Reviews
- Bulk MSR Loan Reviews
- Whole Loan Reviews
- Securitization Services
- Jumbo, Non-QM, HELOC's, DSCR, Fix & Flip

REO Asset Management

- End-to-end REO disposition
- Asset recovery services
- Property tax & HOA services
- Title and closing resolution

Advisory Services

- Credit risk oversight
- Portfolio performance management
- Business process outsourcing
- Servicing oversight
- Annual onsite operational assessment
- Mortgage data analytics
- Verification Agent

Origination & Servicing Compliance

- Servicing quality control
- Origination quality control
- Compliance testing
- Loss analysis
- Claim review



Rating Agency Approvals

S&P Global
Ratings

KBRA KROLL BOND
RATING AGENCY

MORNINGSTAR | DBRS

FitchRatings

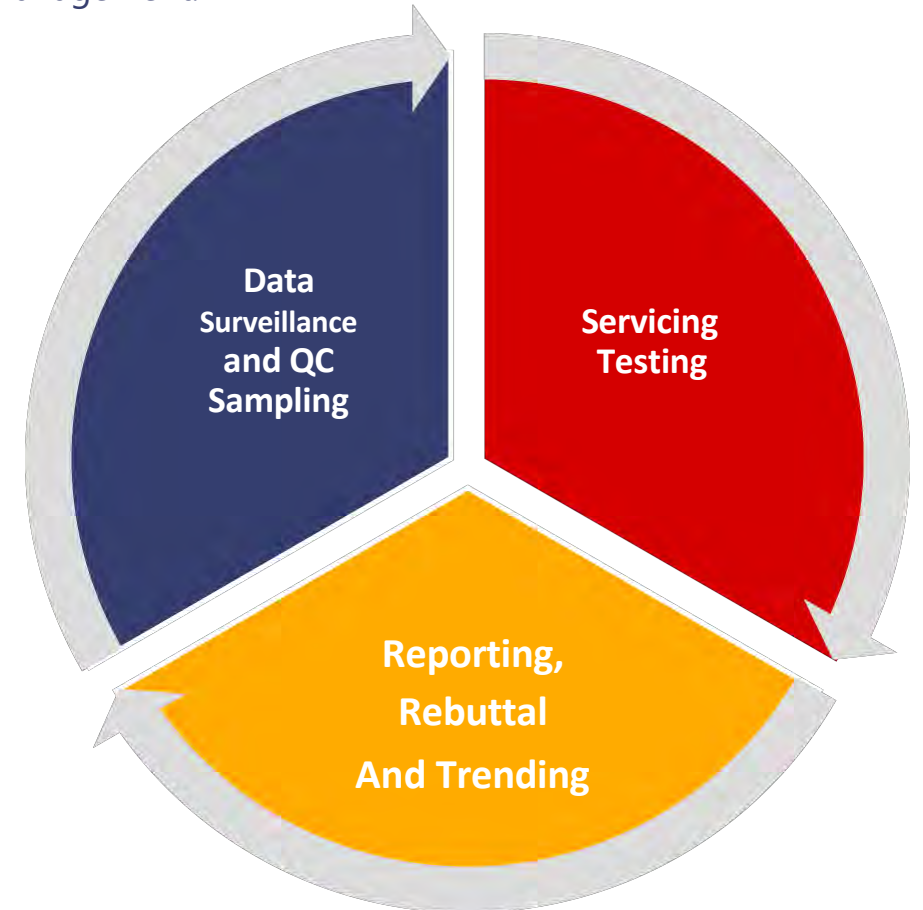


Quality Control Overview

PHOENIX has worked closely with mortgage lenders, servicers, and regulators to develop best-in-class Origination and Servicing Quality Control and Oversight programs focused on compliance and performance management.

The PHOENIX Mortgage Services QC division was developed to address industry challenges of timely and effectively managing sub-servicing activities and adherence to regulatory oversight requirements. The company's QC offering provides solutions to all interested parties involved with servicing, managing a sub-servicer and lending.

- Onsite Operational Reviews
- Loan Sampling
- Servicing QC Testing
- Sub-servicer Rebuttal Review
- PHOENIX QC Technology
- Reporting, Trend Review and Root-Cause Analysis



Mortgage Advisory & Consulting

PHOENIX has developed a reputation for attention to detail and quality in all products and services offered to the mortgage industry.

Below are current projects relative to Invoice Quality Assurance and Review.

MORTGAGE CONSULTING EXPERTISE

PHOENIX has acquired top talent with experience managing mortgage assets at large and special servicers, lenders, private equity, and banks. Our team is made of experts in their respective mortgage backgrounds and provides tailored engagements to a growing client list.

PHOENIX utilizes data and analytics to drive efficiency, process improvements, risk mitigation, and error remediation. Detailed reporting, data trends, and root-cause analysis are performed to ensure our client's goals and objectives are met.



01

Business Process Review and Fulfillment

PHOENIX will partner with our clients to review critical servicing or lending functions and provide analysis on operational gaps, efficiency opportunities or risks. PHOENIX can also assist with fulfillment of select processes.

02

RFP Management for Servicing

Selecting a sub-servicer partner can be complex and challenging. PHOENIX will create a "needs profile" to help align the client's goals and objectives with a tailored RFP document and will fulfill the RFP process.

03

Default Servicing / REO Invoice QA

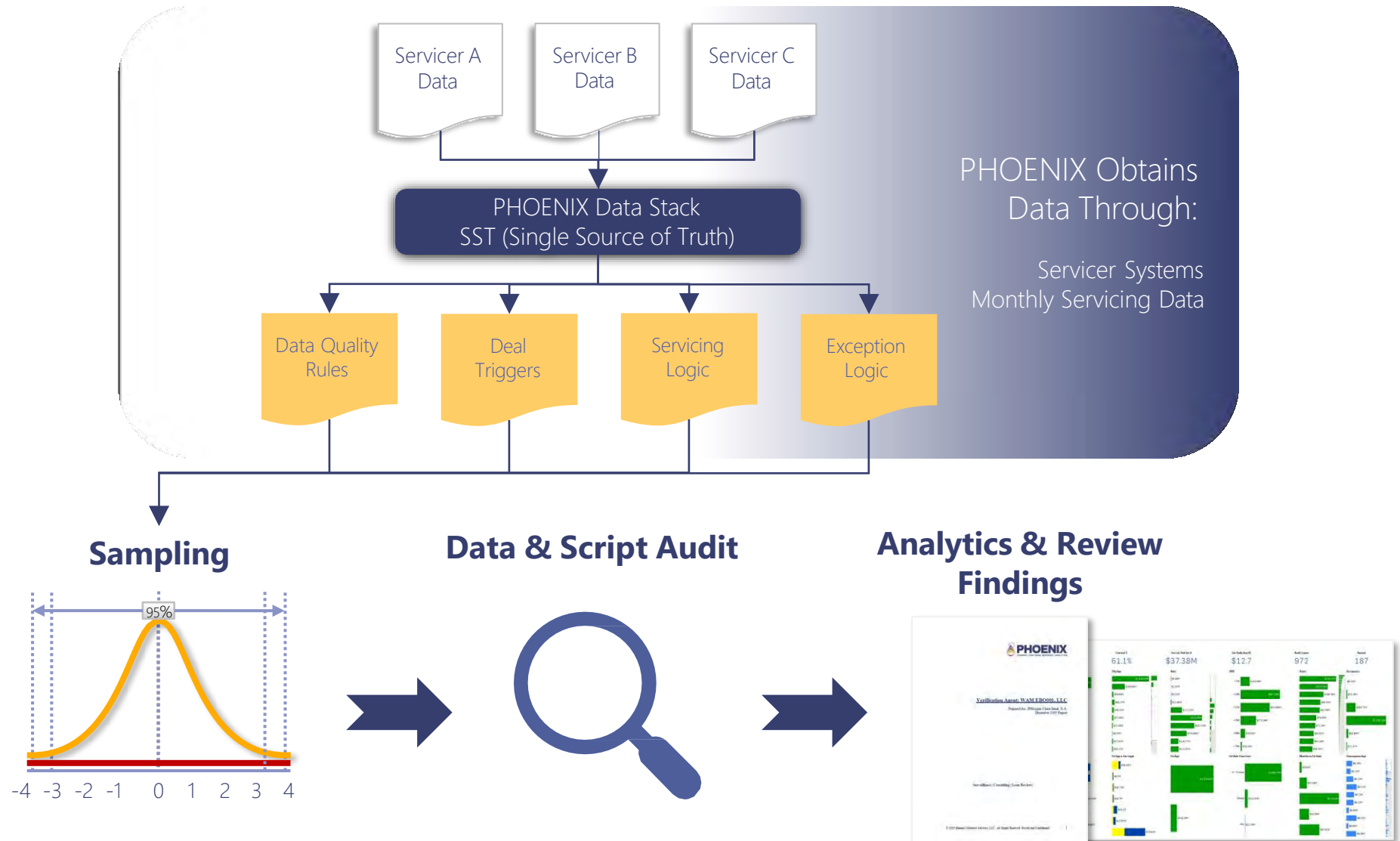
PHOENIX has reviewed hundreds of thousands of default and REO invoices for accuracy, validity, quality and delegated authority on behalf of Fannie Mae and other large banking institutions.

04

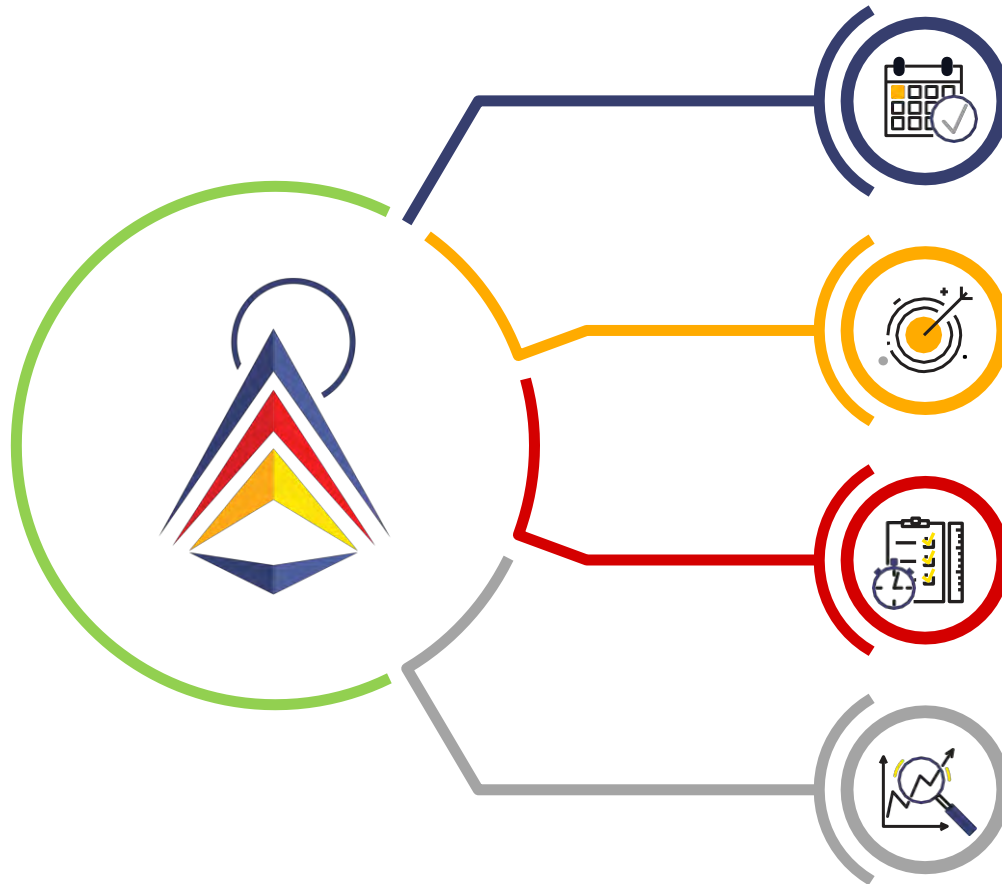
Claims Quality Control / Loss Analysis

PHOENIX reviews claims (Fannie Mae, Freddie Mac, FHA) on behalf of investors, lenders and aggregators to identify indemnification opportunities, systemic issues and to mitigate risk.

Intelligent Servicing Oversight Management



Origination Quality Control Components



Timing

PHOENIX ensures that the quality control review is completed within 120 days for Fannie Mae and Freddie Mac, 60 days for FHA, and 90 days for VA loans.

Selection

Conducting discretionary file selections for prefunding QC is appropriate; however, the post-closing QC process will include both random and discretionary file selections for each agency. Generally, we start with a 10% Random population, unless otherwise noted.

QC Components

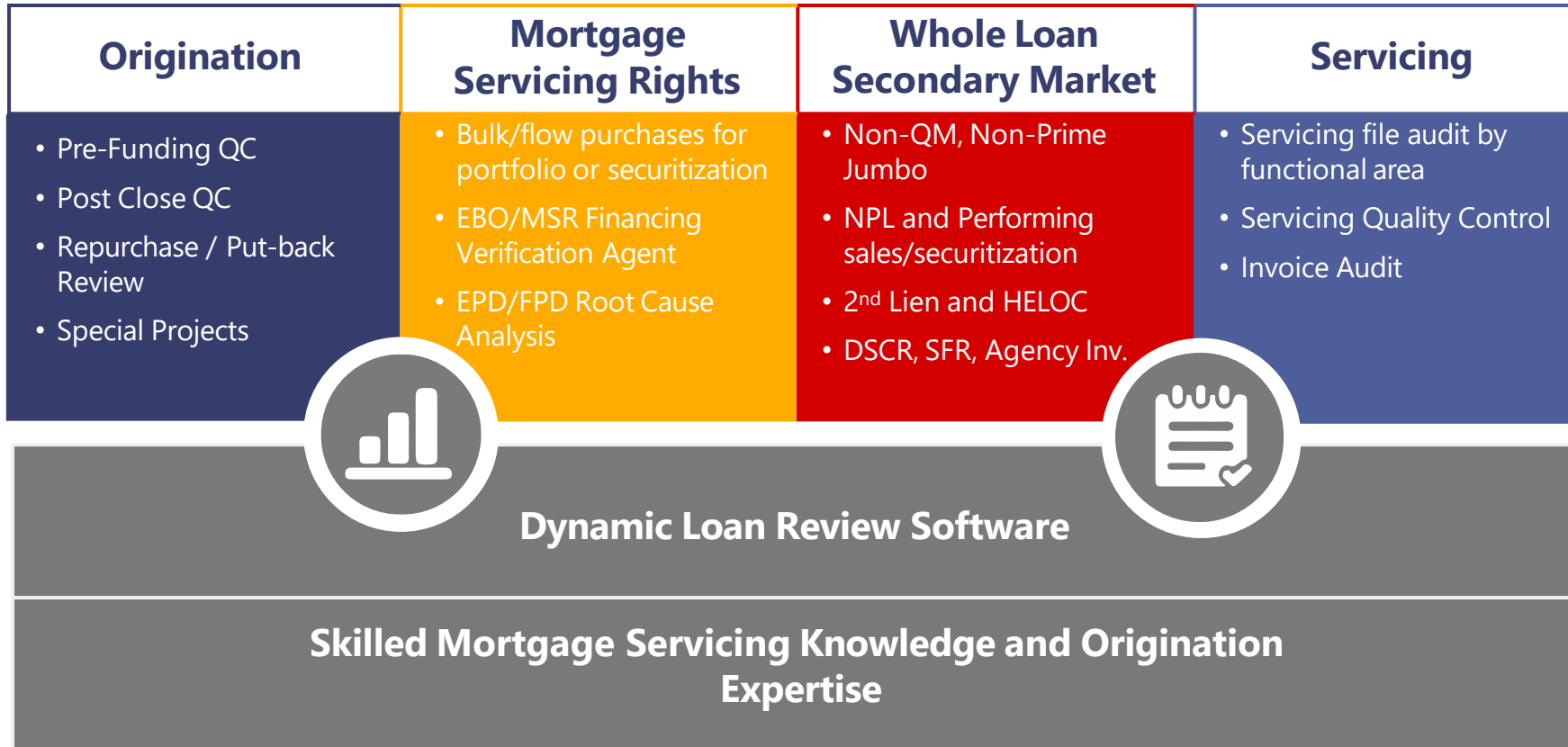
Each agency prescribes specific requirements combined with general items such as: Review of SSN, AUS Findings & Conditions, Re-verification of Borrower Income, employment, credit history, and asset information, occupancy verification, appraisal verification through field or desk review, review of closing documents along with a data sanity check.

Reporting

PHOENIX's reporting is designed to meet agency requirements and address any client specific views or goals. At a high-level reporting, identifies loan level errors, categorizes errors, trends exceptions and provides a net vs. gross findings view. The information allows the client and agencies to easily identify risks.



Loan Reviews for the Mortgage Lifecycle



TPR Review – Loan Review Process

Guideline Review

Investor guidelines are converted to business logic and integrated directly into our software allowing for automated guideline review and applies UW expertise to exceptions and not review of thousands of mortgage doc pages.



Data Integrity

Loan tapes are ingested and automatically compared to what is extracted by RiseIQ and manually entered by our UWs; discrepancies are flagged for analysis, decisioning, and reporting.



Valuation

Multiple valuations are analyzed and reconciled by experienced analysts for value variance, comp bracketing, correct form usage and completeness/quality of information.



Title/Lien/Assignment Chain

PHOENIX confirms the owner of the property, interest covered, and legal description all match across supporting documentation. In addition, we verify the correct vestee is on the title documents and the title chain is accurate and complete.



Sampling

Loan samples are often selected by our clients, otherwise, PHOENIX has proprietary software to assist in the selection of statistical, random and discretionary sampling with expansive variable toggles allowing for fully customizable sample sets.



Credit

PHOENIX will review asset origination to determine conformity to the stated underwriting credit guidelines, standards, criteria or other requirements, including, as applicable, the Ability to Repay (ATR) and Qualified Mortgage (QM) requirements.



Compliance


A direct integration with ComplianceEase allows for effective and efficient result generation directly into RiseIQ. Results are examined and validated by expert compliance analysts. Compliance oversight is performed in accordance with a comprehensive monitoring plan.



PHOENIX TPR Software Platform



A customized ecosystem centered around LauraMac's next-generation loan review technology has recently launched to further scale PHOENIX's TPR operations and allow for a superior user experience that eliminates spreadsheets, manual document transmission, and endless SFTP and curative trails. Our system provides clients with a new level of efficiency and transparency.

Hosted and expanded scalability provided on 



Accessible

Clients can access the system and review files. User roles are defined and restricted.



Communication

Capability and storage of status/comments, client and servicer interaction.



Trainable

Train trail containing communication, docs and findings.



Configurable

Roles, scripts, security, reporting, tasks are all easily configured.



Tasking

Customizable tasking to manage timelines and data input requirements.



Security

Passes the most stringent of information security/SOC requirements.



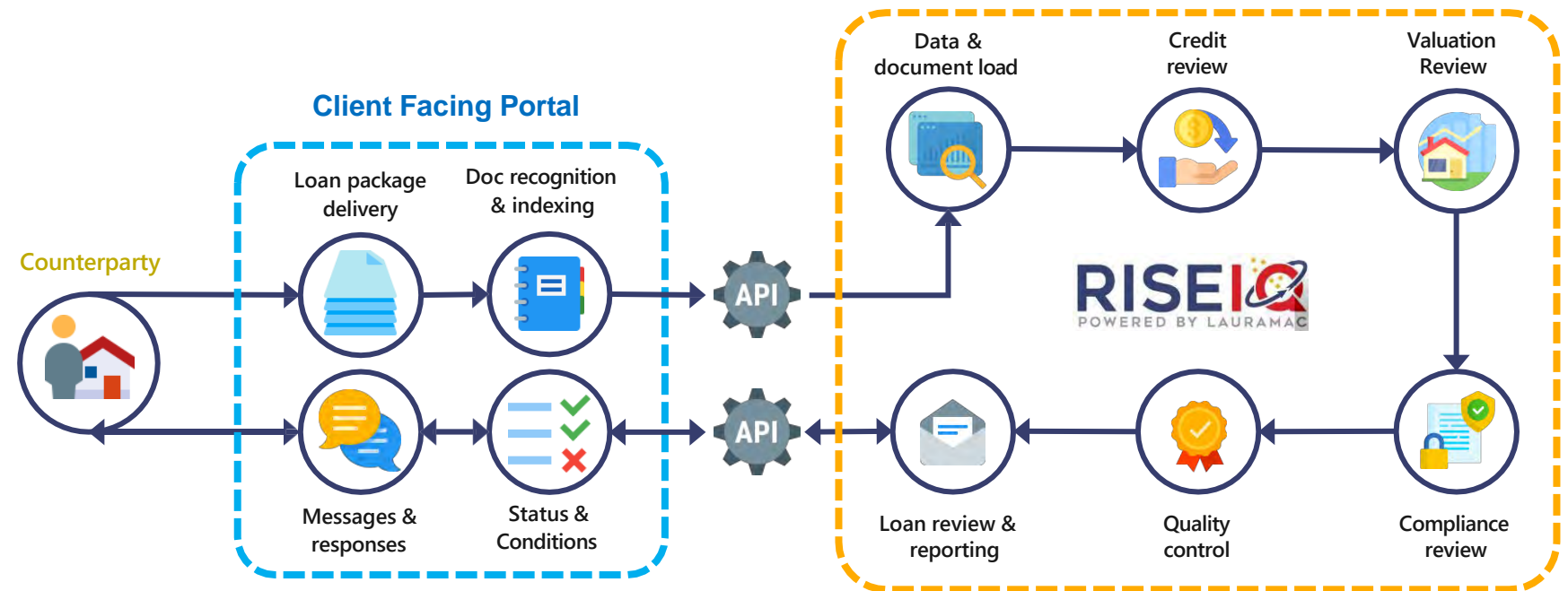
Sample Flow of Docs and Data

Operational success starts with proper planning lead by execution. PHOENIX will assign a dedicated project/client manager to spearhead implementation and ongoing delivery. We believe that frequent and ongoing communication is a foundational aspect of our partnership.

Task List

- Needs Assessment
- Process Discovery with Data/Doc Vendor
- Data Mapping and Document Transfer Protocol
- Guideline Review
- Rules Matrix Established
- User Acceptance Testing
- Staged Roll-out
- Counterparty Feedback Loop
- Hot-fix/Enhancements
- Live Production Rollout
- Ongoing Monitoring and Execution

Possible Structure



Diligence Review Components

PHOENIX's due diligence platform integrates all data and reporting into one system and is reviewed in whole by an experienced underwriting and servicing expert to provide integrated findings and results.

Collateral File Review

- Review all collateral documents to ensure the chain of ownership has been documented correctly
 - Ensure proper chain of assignments and endorsements
 - Confirm all collateral documents are accounted for, accurate and properly executed (Mortgage, Note, Assignment of Mortgages, Allonges or Endorsements, Title Policy)

Title / Lien Search & Review

- Review Title Insurance Policy and/or Commitment review
- Identify all liens, judgments and back due/unpaid taxes to determine risk exposure
- Confirm proper lien holder of record and vested owner of record
- Identify presence of governing HOA, possible Code Violations and Open Permits

Underwriting

- Our underwriting systems and procedures remain highly flexible providing the ability to expand or refine the scope of work quickly and effectively. Our re-underwriting process generally consists of:
 - Re-calculations (DTI, Income, DSCR, LTV/CLTV, Credit)
 - Verifications (Employment, Income, Taxes, Assets)
 - Findings Audit (Inconsistencies, AUS, HUD-1, Fraud, Exceptions and Compensating Factors)

Compliance & Fraud

- Loan file data is extracted and verified against a nationwide aggregation of origination laws focused on multi-jurisdictional audits covering:
 - Federal Law (HOEPA, TILA, RESPA, TRID, High Cost)
 - State and Local Predatory Law
 - Ability to Repay and Qualified Mortgage

Performance Analysis

- Ensure borrower credit worthiness met program guidelines at origination
- Provide an updated clear picture of the borrower's credit quality, along with their current willingness and ability to continue meeting the loan payment obligations
 - Review and analyze pay history and collection comments

Valuation

- Administrative Review to determine the current market value of the property
 - AVMs, Appraisals, Desktop Reviews and Field Reviews



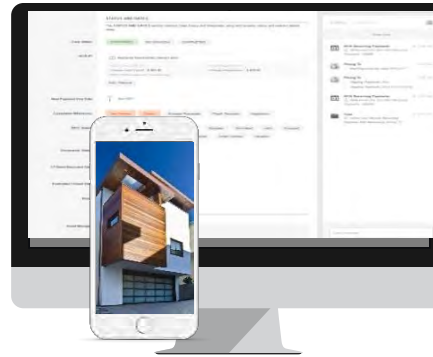
PHOENIX REO Stands Out

PHOENIX has worked closely with mortgage lenders, servicers and regulators to develop a best-in-class REO asset disposition platform focused on flexibility, execution and customer service.



High Touch

- ▶ We are NOT box checkers
- ▶ 30% less assets per asset manager
- ▶ Focus on “white glove” service for all clients
- ▶ Integrated Component Services



Technology & Innovation

- ▶ Access to national MLS data and recent sales
- ▶ Integrated with industry’s top third-party systems
- ▶ Sub-milestone approach to managing timelines
- ▶ Custom apps for expanded scope



Execution

- ▶ Tenured Asset Management teams
- ▶ Tried and tested workflows/procedures
- ▶ Top scoring vendor partner for all REO clients
- ▶ Privately held and managed



PHOENIX REO Overview

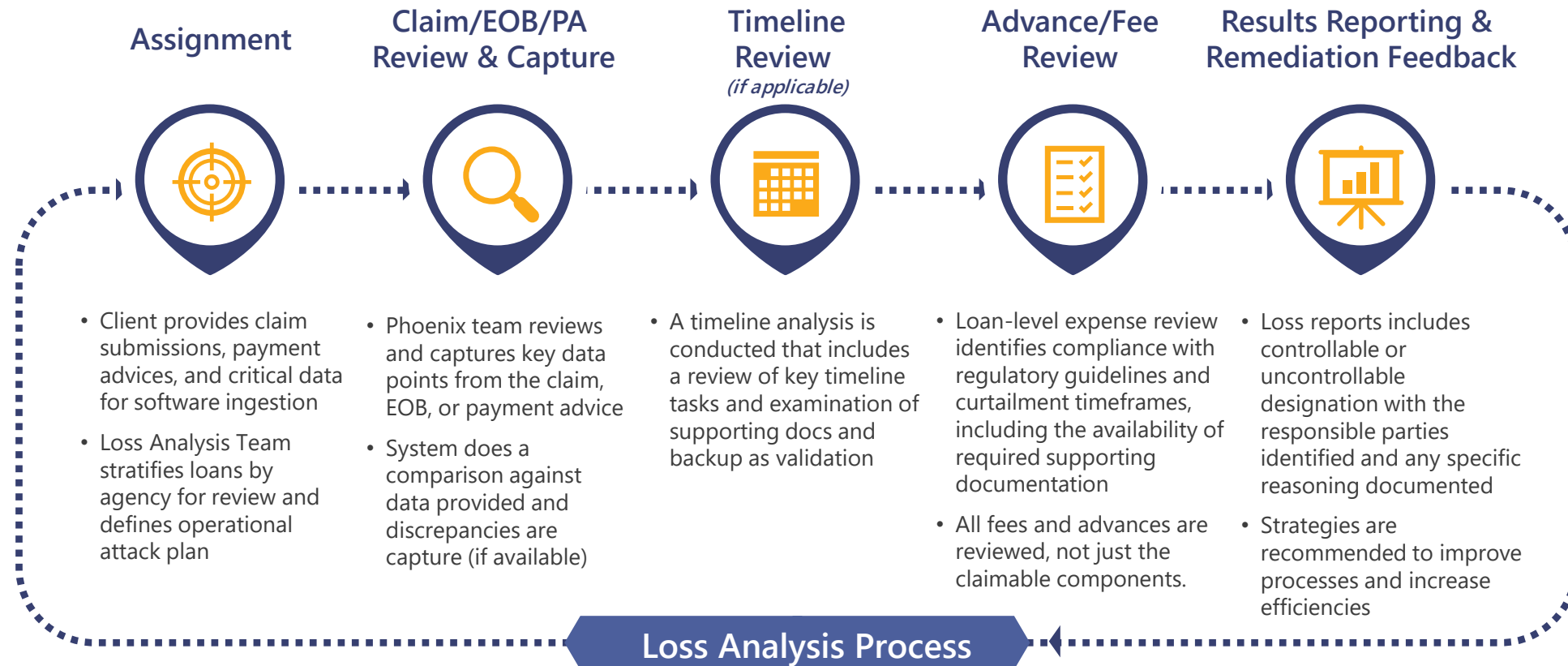


PHOENIX REO Overview Continued



Loss Analysis High Level Process

Our process is designed to evaluate the claim, key servicing milestones and invoices to align with investor allowed expenses. This process is currently being converted to a software that will allow for automation and efficiency gain.



Credit Risk Oversight

Verification Agent

- ▶ Reconciliation of accounts and cash activity for advance facilities
- ▶ Review of loan servicing activity for EBO or whole loan facilities
- ▶ TPR diligence for SFR/DSCR facilities, review of loan guideline eligibility for loans brought on to the line
- ▶ Valuation and disposition agent as part of MSR facilities

&

Portfolio Management

- ▶ Transaction support for loan aggregators
- ▶ Mortgage loan servicing surveillance tracking key performance metrics
- ▶ Staff fulfillment for critical mortgage support roles
- ▶ Customized business process outsource for mortgage lenders, servicers and GSEs



Reporting Examples

01

Automated reporting developed specifically for rating agency grades is configured within the system and exported with ease.

Rating Agency

02

Exception reporting is detailed and configured to optimize counterparty review and analysis of findings.

Exception Detail

03

Automated data integrity and discrepancy reporting is generated to quickly address reconciliation issues between loan tape data and information extracted from loan files.

Data Integrity

04

An analysis of all information received and produced through PHOENIX fulfilled work. Summarization and trends of findings or other key activity based on client portfolios is reviewed and reported on.

Summary & Trend

05

Standardized review output required for securitizations is generated automatically with the click of a button.

Securitization



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PHOENIX Analytics

PHOENIX Analytic Services

MSR Fair Value

- MSR fair value
- Interest rate sensitivities
- Cash flow reporting

MSR Economic Value

Valuation incorporating actual servicing economics/intrinsic cash flows

Whole Loan Valuations

- Mark to market/fair value
- Portfolio risk stratification
- Cash flow reporting

Secondary Marketing

- Loan level SRP grids
- Market or economic best-execution

Accounting

Complete outsourcing of MSR accounting function
(LOCOM or Fair Value)

Acquisition analysis

- Supportive analytics for targeted acquisitions
- Market or economic scenario analyses



MSR Valuation Process

After completion of the analysis a robust formal valuation package is created that can be provided to auditors, regulators, etc. PHOENIX offers a unique feature for MSR valuation clients. We call it MSRV, and the “v” is for “visualization”. It’s a graphical representation of your MSR portfolio value and its critical drivers, with trends over time for context. It is designed for senior stakeholders (CEO, CFO, Head of Capital Markets, others) to access and use on their mobile phones as they digest their MSR valuations and make strategic decisions.

PHOENIX provides client with a fully customizable suite of valuation reports:

1. Aggregated/loan level pricing
2. Detailed monthly cash flows
3. Interest rate sensitivity shocks


Adverse scenarios are also part of standard reporting package (shocking yield, cost to service, delinquencies and CPR)

Deliverable

Data scrub

- The PHOENIX Analytics desk thoroughly scrubs data for inconsistencies and/or inaccuracies and creates portfolio data stratifications
- Analyst is aware of the unique portfolio characteristics before starting the valuation process, placing special consideration into each of these factors when assessing value
 - Ensuring key valuation items related to the data are not lost between the “tape cracker” and the MSR analyst

Portfolio model

- The reconciled and scrubbed portfolio is then loaded into our discounted cash flow model 
- PHOENIX applies valuation assumptions consistent with industry best practice and current market conditions
- The analytics desk also leverages its synergies with the trading desk to carefully hone and calibrate its modeling approach to align with recently executed transactions

Valuation results



Governance and Documentation

- All assumptions used in the MSR valuation process are approved by an executive-level committee and the sources for all assumptions are documented
 - Assumptions are reviewed periodically to ensure that they remain consistent with the market
 - Justification for assumption changes are documented by the Analytics Manager and presented for committee approval
 - Changes in market interest rates do not require daily approval but the sources of these rates are documented. This is particularly important in the establishment of “par” interest rates, which are a key driver of the prepayment speed assumptions and resulting valuation
 - A change to the source for any market rate is approved by an executive committee
- Valuation results are thoroughly reviewed by senior and/or executive management prior to distribution
- PHOENIX received it’s SOC (Type 1 vs 2) certification and continues to obtain and hold certifications on an annual basis
 - Our SOC certifications both cover IT compliance and governance, and our Analytics driven services



Sample MSR Valuation Reports

Rate shocks


Dynamic rate sensitivity reports (in customizable shock increments) provide a view of potential portfolio value shifts with changes in primary mortgage rates.

Cash flows

Detailed annual and/or monthly cash flow reports provide a granular view of the projected revenue and expense streams over the life of the MSR asset.

Pricing reports


Customizable to accommodate virtually any client reporting needs and provide full transparency into key modeling assumptions (Yield, CPR, CDR, Cost to Service, etc.).



PHOENIX
Mortgage Servicing Software

Client Name: ABC Mortgage
Proc ID: 100809300
Date/Time: 9/30/2018
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Agency	Type	Term	UPB	Loan Ct	NoteRate	Svc Fee	Age	Par Rate	1000 bp	750 bp	500 bp	250 bp	Base bp	250 bp	500 bp	750 bp	1000 bp
PHLMC ARC	FIXED	30	3,488,904,250	13,720	4.250	0.253	13.83	4.873	100.84	109.96	119.82	129.27	137.38	143.57	147.62	149.86	150.89
PHLMC ARC	FIXED	20	158,781,750	637	3.948	0.250	15.01	4.102	69.05	81.54	93.85	104.32	111.82	116.47	119.99	120.15	120.62
PHLMC ARC	FIXED	15	319,625,647	1,503	3.250	0.250	17.73	4.102	75.43	81.77	88.11	93.98	98.57	102.06	104.30	105.56	106.22
PHLMC ARC	ARM-7/1	30	904,039	2	3.416	0.250	21.52	4.250	62.64	70.29	78.01	84.60	89.96	93.90	96.68	98.87	100.31
PHLMC ARC	ARM-1Q/1	30	699,608	4	3.715	0.250	9.92	4.500	80.58	90.27	98.23	103.79	106.93	108.54	109.29	109.64	109.85
FNMA A/A	FIXED	30	1,852,437,661	7,638	4.133	0.250	16.14	4.873	97.92	107.04	116.20	124.36	130.96	135.84	139.03	140.82	141.70
FNMA A/A	FIXED	20															
FNMA A/A	FIXED	15															
GNMA I	FIXED	30															
GNMA II	FIXED	30															
GNMA II	FIXED	20															
GNMA II	FIXED	15															



PHOENIX
Mortgage Servicing Software

Client Name: ABC Mortgage
Proc ID: 100809300
Date/Time: 9/30/2018
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Time Period	Loan Count	Scheduled Payments	Delinquency	Foreclosure	CDR	Servicing Fee	Ancillary Service	Late Fee	PM Insurance	Prepayment Fee	Escrow Service	Servicing Expense	Other Expense	Interest Income	Principal Income
Year 1	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 2	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 3	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 4	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 5	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 6	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 7	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 8	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 9	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 10	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 11	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 12	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 13	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 14	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 15	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 16	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 17	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 18	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 19	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 20	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 21	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 22	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 23	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 24	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 25	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 26	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 27	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 28	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 29	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Year 30	13,720	3,488,904,250	13,720	0.00	0.00	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000



PHOENIX
Mortgage Servicing Software

Client Name: ABC Mortgage
Proc ID: 100809300
Date/Time: 9/30/2018
Print Date: 9/28/2018 3:25:22 PM
Filter(s): <none>

Agency	Type	Term	Loans	UPB	Avg Bal	IntRate	Svc Fee	Age	Price	Price%	Multi	Yield	Cost	Setup	Ancillary	Par Rate	Vol	CPR
PHLMC ARC	FIXED	30	13,720	3,488,904,250	254,233	4.250	0.253	14	47,930,732	1.3738	5.4384	9.81	70	10	35	4.873	7.70	
PHLMC ARC	FIXED	20	637	158,781,750	249,285	3.948	0.2505	15	1,775,435	1.1182	4.4643	9.50	70	10	35	4.102	9.66	
PHLMC ARC	FIXED	15	1,503	319,625,647	212,858	3.250	0.2500	18	3,153,812	0.9987	3.9466	9.50	70	10	35	4.102	8.08	
PHLMC ARC	ARM-7/1	30	2	904,039	452,020	3.416	0.2500	22	8,132	0.8996	3.5882	11.50	80	10	40	4.250	15.56	
PHLMC ARC	ARM-1Q/1	30	4	699,608	174,902	3.715	0.2500	10	7,481	1.0683	4.2773	11.50	80	10	40	4.500	9.69	
FNMA A/A	FIXED	30	7,638	1,852,437,661	242,529	4.133	0.2500	16	24,259,049	1.3086	5.2380	9.50	70	10	35	4.873	7.31	
FNMA A/A	FIXED	20	799	203,248,224	254,378	3.785	0.2500	14	2,185,301	1.0755	4.3019	9.50	70	10	35	4.102	8.77	
FNMA A/A	FIXED	15	2,648	580,282,519	219,140	3.100	0.2500	20	5,405,357	0.9315	3.7280	9.50	70	10	35	4.102	8.03	
GNMA I	FIXED	30	38	8,945,448	245,707	4.000	0.4400	13	158,220	1.7887	4.0883	10.50	85	10	50	4.891	10.67	
GNMA II	FIXED	30	3,017	722,152,332	239,361	4.062	0.4451	11	13,388,067	1.6536	4.1649	10.60	85	10	50	4.891	10.53	
GNMA II	FIXED	20	2	819,879	309,940	3.740	0.4504	9	9,101	1.4833	3.2886	10.60	85	10	50	4.102	15.71	
GNMA II	FIXED	15	57	10,388,859	182,228	3.460	0.3480	13	112,207	1.0803	3.0566	10.57	85	10	50	4.102	13.34	
---	---	---	30,063	7,348,888,457	244,383	4.087	0.2708	18	98,391,315	1.3382	4.9466	9.82	72	10	37	4.721	8.05	



Sample MSRv

Pricing



Rate Shock



Cash Flows



Whole Loan Valuation Process



Sample Whole Loan Valuation Reports

Description of Valuation Considerations

Walkthrough of the valuation process, description of the subject loan portfolio, and an in-depth overview of the loan-level assumptions and pricing scenario

Select Portfolio Stratifications

High-level portfolio stratifications to pinpoint risks and possible risk mitigation opportunities

Portfolio Valuation by Loan Cohort

Customizable to accommodate virtually any client reporting needs and provide full transparency into key modeling assumptions (Yield, CPR, CDR, Severity, etc.)

[illegible]



Additional PHOENIX Services

MSR PRICING SERVICE (MSRP)

PHOENIX is now offering integration for live MSR pricing and risk metrics for new originations pipeline

With this service, customers are able to apply PHOENIX-derived values and risk metrics to MSR for purposes of mark-to-market, hedging, best execution, pricing, capitalization, and bid purposes



Valuation assumptions can be customized to a company's specific economic profile, which greatly improves retain decisions versus released decision making



The granularity of pricing MSR on a loan-level basis offers many benefits over legacy valuation techniques like static rate sheet pricing grids



Built within the Compass Analytics pipeline hedging platform or through an API-based valuation framework



YOUR TRUSTED PARTNER

The premier advisor for MSR &
Whole Loan Trading, Mortgage
Services and Analytics.