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Black Knight Data & Analytics, LLC
Response to the
Federal Housing Finance Agency

Request for Information on Appraisal-related Policies, Practices, and Processes

February 25, 2021

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Executive Summary

A robust, efficient, transparent real estate valuation process is foundational to homeowners and borrowers' confidence in the US housing finance system. Modernizing this process to meet consumer expectations while maintaining the safety and soundness of residential mortgage lending requires the FHFA and the Enterprises to carefully balance these different imperatives. As a leading service provider to the US mortgage industry, Black Knight Data & Analytics, LLC, an indirect subsidiary of Black Knight, Inc., appreciates the opportunity to submit a response to this RFI. The RFI and the responses to it across our industry will provide an important contribution to ongoing dialogue both on the importance of the appraisal industry itself and current and future opportunities to enhance it. Black Knight looks forward to continuing to partner with the FHFA, the Enterprises and our many clients across the origination, servicing, capital markets and government sectors to drive innovation, accelerate efficiencies, and increase transparency in the valuation of residential real estate.

Company Overview and Background

Black Knight, Inc. is the premier provider of integrated technology, data and analytics that lenders, servicers, government agencies and regulators, housing experts and mortgage market participants look to first to help successfully manage the entire mortgage lifecycle. For example, Black Knight's industry leading McDash database is a repository of mortgage performance data on over 200 million unique loans across the investor and credit spectrum. This vast database is further expanded by leveraging Black Knight's servicing platform, MSP®. MSP is the servicing system of record for primary mortgage servicing and currently houses the majority of US residential mortgages.

Black Knight's industry leading property database currently covers 100%[1] of US property assessment records from over 3,100 counties and includes more than 580 million sales and mortgage records on residential and commercial properties. Black Knight is also the distribution partner for real estate listing data for Realtors Property Resource, a subsidiary of the National Association of Realtors. Black Knight's data advantages combined with its unique intellectual property helps fuel Black Knight's home price indices (HPIs), and its prepayment and mortgage performance analytics.

Black Knight is also a leading provider of automated valuation models (AVMs). Black Knight's AVM construction is unique in that Black Knight is very nearly the only AVM provider that collects the underlying data directly from the source (i.e., County Recorders and Assessors) which affords Black Knight the advantage of, among others, addressing any data issues very quickly. In addition, Black Knight's AVMs have nationwide multiple listing service (MLS) coverage that is available in 3,097 of 3,142 US counties. All major CBSAs are covered as well as best-in-industry rural coverage, including across our specialized distressed AVM suite. Customized hit rate vs. accuracy-balanced AVMs and AVM cascades are all available. Black Knight provides maximum volume management and pricing flexibility and Black Knight's dedicated and talented team draws from decades of experience developing and maintaining AVMs and related tools. Most recently (last year),

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[1] Coverage is subject to change

Collateral Analytics, a highly regarded property valuation and home price trends provider, joined the Black Knight family.
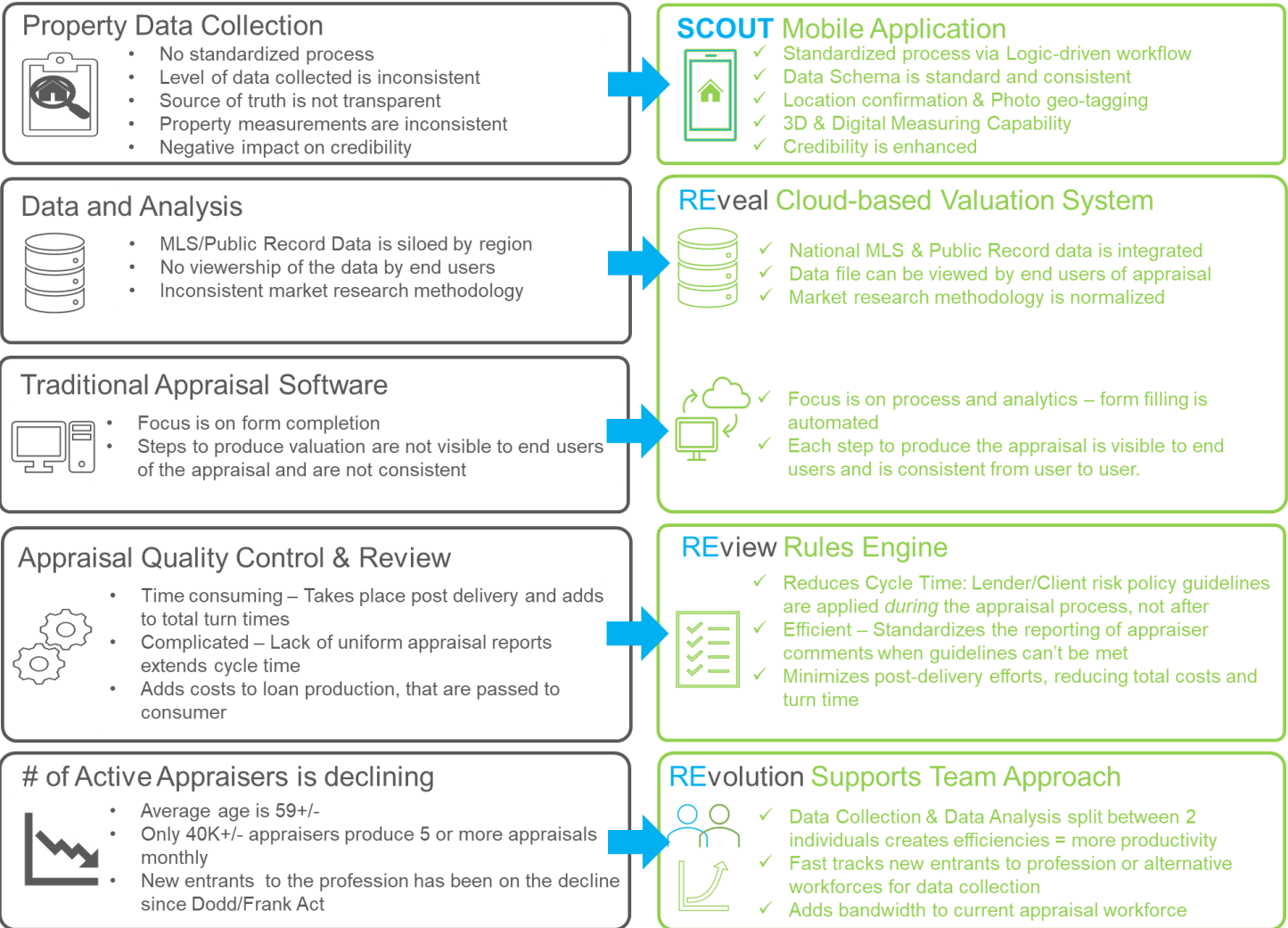
Key differentiators that make Black Knight the premier provider to the real estate and mortgage industries:

1. **Unique Data Advantages** – Black Knight has accumulated the most comprehensive industry repository of mortgage and property related data and deeply understands how to collect, normalize, aggregate, interpret and report on this information. Black Knight's property records data currently covers 100%[1] of US County Assessor records and very nearly this coverage of County Recorder Deed and Mortgage records. Black Knight's loan-level mortgage performance database (McDash) currently receives loan-level servicing data from at least 60 servicer contributors covering more than 60% of the market, by far the highest in the industry, and continues to grow. Finally, Black Knight's Value Range Express delivers one-stop access to over 200 fields of MLS data that are linked together by a single Black Knight ID. This creates a flexible valuation data solution covering 95% of all MLS activity, including every status update and matched to property records representing 99.9% of the US population. Underlying these property valuations are MLS updates for all status changes that is refreshed daily to ensure completeness.

2. **Deep Corporate Experience, Financial Strength & Stability** – Black Knight provides HPIs, AVMs, mortgage performance data, prepayment and credit models, mortgage scores, property records, and other data and analytics solutions to thousands of clients across the government, mortgage, housing and capital markets sectors. Black Knight has the financial strength and stability that remains unmatched in the mortgage service provider industry.

3. **Technology & Scale** – Black Knight offers the largest and most innovative information technology infrastructure in the industry.

4. **Experienced Personnel** – Black Knight's Data & Analytics team consists of team members that are housing and mortgage subject matter experts who have deep and extensive experience working with mortgage data and analytics on behalf of multiple clients.

5. **Proven Government Experience** – Black Knight has a long and strong track record in supporting the data and analytics needs of federal government agencies. Black Knight has extensive experience assisting governmental agencies with data aggregation and technology, providing critical data for regulatory oversight and other needs.

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The Appraisal Process: Challenges and Opportunities

CURRENT CHALLENGES

REvolution
APPRAISAL MODERNIZATION

Property Data Collection
- No standardized process
- Level of data collected is inconsistent
- Source of truth is not transparent
- Property measurements are inconsistent
- Negative impact on credibility

SCOUT Mobile Application
✓ Standardized process via Logic-driven workflow
✓ Data Schema is standard and consistent
✓ Location confirmation & Photo geo-tagging
✓ 3D & Digital Measuring Capability
✓ Credibility is enhanced

Data and Analysis
- MLS/Public Record Data is siloed by region
- No viewership of the data by end users
- Inconsistent market research methodology

REveal Cloud-based Valuation System
✓ National MLS & Public Record data is integrated
✓ Data file can be viewed by end users of appraisal
✓ Market research methodology is normalized

Traditional Appraisal Software
- Focus is on form completion
- Steps to produce valuation are not visible to end users of the appraisal and are not consistent

✓ Focus is on process and analytics – form filling is automated
✓ Each step to produce the appraisal is visible to end users and is consistent from user to user.

Appraisal Quality Control & Review
- Time consuming – Takes place post delivery and adds to total turn times
- Complicated – Lack of uniform appraisal reports extends cycle time
- Adds costs to loan production, that are passed to consumer

REview Rules Engine
✓ Reduces Cycle Time: Lender/Client risk policy guidelines are applied *during* the appraisal process, not after
✓ Efficient – Standardizes the reporting of appraiser comments when guidelines can't be met
✓ Minimizes post-delivery efforts, reducing total costs and turn time

of Active Appraisers is declining
- Average age is 59+/-
- Only 40K+/- appraisers produce 5 or more appraisals monthly
- New entrants to the profession has been on the decline since Dodd/Frank Act

REvolution Supports Team Approach
✓ Data Collection & Data Analysis split between 2 individuals creates efficiencies = more productivity
✓ Fast tracks new entrants to profession or alternative workforces for data collection
✓ Adds bandwidth to current appraisal workforce

General Questions on Appraisal Policy and Process Improvements

| A1.1 | Is there is a need to provide new valuation solutions that address industry identified issues of appraiser capacity, turn-times, training, and rural and high-volume market coverage? What are those potential solutions? What are the risks of these policies and the challenges in implementing them? | **OVERVIEW**
In partnership with its clients, Black Knight is currently testing and evaluating a new process powered by REvolution, Black Knight's cloud-based valuation platform. REvolution is an enhanced valuation process that addresses:

• **Appraiser Capacity:** Improved efficiencies = More productivity and increased capacity.
• **Appraiser Trainees and Training:** Mobile-enabled workflow shortens the learning curve.
• **Improves Turn Times:** A 2-person team approach (i.e., Black Knight's SCOUT inspection and REveal valuation) sharing the workload, combined with data and analytics, improves end-to-end turn times.
• **Greater Transparency:** Comparable selection process and analysis that was once performed in a silo can now be viewed and understood by the end-users of the valuation.
• **Adds credibility to the final valuation or opinion of value:** Logic, rules, and audits in the process all improve the credibility of the results.

RISKS
Black Knight has minimalized risk by instilling controls, rules and quality control checks across all parts of this new process. Black Knight believes there are actually fewer risks in this new process than in the current appraisal paradigm.

CHALLENGES
One of the challenges is adoption of new processes by the appraisal profession. Many appraisers are concerned that the appraisal modernization initiative is about replacing the appraiser. With training and education, Black Knight has successfully helped a wide range of appraisers move beyond this challenge and accelerated adoption. |
| A1.2 | Are there opportunities for process improvements that allow non-traditional valuation services (inspection-only, desktop, exterior-only) to augment traditional appraisals? Please elaborate on the risks, challenges and benefits. Separately, are there opportunities to improve traditional appraisals to | **OPPORTUNITIES**
Inspections other than Traditional Methods: Mobile smart devices such as iPhones have created a leverageable platform to perform property data collection that is consistent, objective and transparent thereby exceeding traditional appraisal processes. When properly utilized, this valuable data can be proactively captured and shared with an appraiser, who can be made more productive by eliminating other parts of the traditional process (e.g., setting appointments, drive/commuting time, inspection time, etc.). |

mitigate problems and concerns that have been observed to date?	Facilitating the appraiser to focus mainly on the neighborhood comparables data and market dynamics improves turn time and boosts credibility. **Desktop Appraisals:** Cloud-based technology provides an environment where the appraiser's opinion of value is developed: • Improves transparency on how the opinion was developed. • Standardizes a currently informal process. • Minimizes the opportunity for appraisers to pick and choose comparables that will simply support a known sales contract. • Reduces value inflation risk. • Provides insight on the level of effort applied by the appraiser. • Helps the readers and users of the appraisal report understand the abundance - or lack - of data sufficient to support the opinion of value. **RISKS** A properly trained and accountable individual leveraging a robust mobile application tool does not introduce any risks that are not already inherent in traditional appraisals. **CHALLENGES** • Appraiser adoption • Learning a new process • Technology scale (e.g., internet signal strength, updated devices, etc.) **BENEFITS** **"Arms-length" Relationship between the Appraiser and Parties to the transaction:** When an appraiser performing the valuation personally inspects the subject property, parties that will benefit from the results of the valuation will often interact with the appraiser while present at the property. When someone other than the appraiser performs this function, this eliminates the opportunity for this interaction and therefore improves the appraiser's independence in their opinion of value. **Digital Property Measurements:** The adoption of new digital tools to determine livable area would be an improvement to the traditional appraiser's sketch. Studies have shown there is no uniform method to measure a property, resulting in inconsistent estimates of gross living area. This absence of a measuring standard permits over or under valuation. In general, the exactitude of digital measurement

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		should provide a standardized basis for gross living area computation compared to manual measurement.
A1.3	Do appraisal waivers have a place in Enterprise appraisal policy and process, and if so, for what segment of loans? What are the current risks to Enterprise safety and soundness in how appraisal waivers are offered? Would caps or other limits on their usage be appropriate?	When used in the right risk cascade, appraisal waivers are an appropriate alternative to a traditional appraisal for collateral risk assessment. **RISKS & CHALLENGES** Real property improvements are in constant flux. A property's condition can improve or depreciate rapidly based on external forces such as weather conditions or occupancy factors such as its particular inhabitants. The property's condition can have a significant impact on its marketability and therefore its value. An appraisal waiver that does not at a minimum include an inspection by an unbiased 3rd party introduces additional risk and should only be used when the credit risk and LTV are low. The AVMs that are used to approve/decline waiver eligibility depend on the existence of a prior appraisal. No updates to the condition/quality of 'prior' appraisals and their data over a prolonged time have a negative impact on the credibility of the AVM used to measure risk. If, at a minimum, an inspection is required, and the inspection is normalized with uniform data collection standards, this risk is mitigated. Standardized inspections will provide AVMs with refreshed or new information, which in the long term will improve their credibility among the appraisal profession. A standardized - and shared - database of the housing market would benefit both appraisals and AVMs. Black Knight welcomes the opportunity to partner with FHFA and the Enterprises to realize this vision. Black Knight has substantial experience in the sourcing, management and delivery of nationwide property and mortgage databases for both Enterprises, and, indeed, across the entire real estate and mortgage industries. For example, Black Knight is a primary collector of County Tax Assessor and Recorder information, while Black Knight's loan-level McDash database is the leading source of loan performance information in the market today.
A1.4	Would utilizing alternative inspection workforces, such as insurance adjusters, real estate agents, and appraisal trainees assist with addressing appraiser capacity concerns? Are there risks of using third-party non-appraisers? If yes, How?	Alternative workforces offer many benefits to the appraisal profession. Post- HVCC and Dodd-Frank, in a perhaps somewhat over-reaction to the financial crisis, many lenders, AMCs and other industry participants adopted risk policies which mandated that a 'certified' appraiser be engaged for an appraisal. In many cases the use of a trainee was no longer permitted. At the same time, many states adopted a policy that to become certified, an appraiser must have a college degree.

Over the past decade, Black Knight believes the adoption of these policies has negatively impacted the incentive to become an appraiser, resulting in a decline in new entrants to the profession. This, combined with the number of appraisers aging out of the profession, has created a 'knowledge share gap' that is difficult to replace. As the number of potential buyers/re-fi'ers continues to grow, and the number of available appraisers continues to shrink, there will be an inflection point in the near future that is likely to cause a severe shortage of appraisers.

Mobile data collection tools that have been developed and brought to market in the past few years such as Black Knight's SCOUT, are bridging the "knowledge gap" by augmenting the knowledge required to inspect a property with rules and process flows that produce very credible property inspections. This provides an excellent opportunity to encourage new entrants/trainees into the appraisal profession. Injecting a 'team approach' to valuation will free up time for the seasoned appraisers, allowing them to focus more deeply on the valuation and data analysis, thereby increasing overall productivity.

A1.5	Is there a need for additional policies and controls to balance potential risks with efficiency benefit from appraisal modernization? If yes, please provide your recommendations.	**INSPECTION WORKFORCE** For alternative workforces to be impactful, any inspection workforce must have some level of accountability - and liability - that would maintain independence, objectivity and impartiality in the collection of property data. This could be accomplished through a combination of efforts: • Intelligent mobile application design and risk controls. • Quality control processes for the data collected. • Accountability expectations from the Enterprises for the procurers of the inspections. • Signed certifications in the inspection documentation. • Training or certification courses and ongoing education. • State/federal licensing of 'property data collectors' if such individuals do not already have an appraisal, real estate or other appropriate professional license.
A1.6	Do the objectives as outlined for the UAD update and forms redesign meet the current and future needs of the mortgage industry? Are there opportunities for refinements or additions?	Thus far, the efforts of the Enterprises and other industry participants appears to be pointed in the right direction. Simplified and dynamic data in lieu of a form/report should be beneficial for all stakeholders. There must be careful consideration to not 'over bake' the new data standard and unintentionally introduce additional steps in the process instead of streamlining them.

		Some data an appraiser is requested to produce is not readily available in some markets and may add to turn times and costs.

Questions on Risk Management

| B2.1 | How could the Enterprises make additional data available to appraisers while promoting appraiser independence without crowding out other data providers? What additional challenges arise if the enterprises provide data to appraisers? | Instead of the Enterprises making data directly available to appraisers, Black Knight proposes they should make this data available to the industry's commercial data providers. This will promote innovation and competition between these data providers to engage and attract all market participants.

Appraisers already rely on other technologies to help them make data useful. Providing that data directly would not generate the same lift as would providing the data to companies that manage data as their core business.

Many or most of the data providers also provide data solutions outside of valuation that would be beneficial to all stakeholders. The ultimate goal should be the highest quality uniformly across all data collected.

If the Enterprises provide data directly, the sole innovators and competition would be the Enterprises themselves. Black Knight does not believe this is the highest and best use of data. |
|---|---|---|
| B2.2 | How can the Enterprises improve their collateral tools currently available to lenders? | The efficacy of the Enterprises collateral tools could be further enhanced by increasing lenders' participation in the ongoing development of these tools. Such involvement could take the form of regular lender user forums and roadmap sessions, as well as more broader industry stakeholder forums to include appraisers, AMCs and data/analytics providers, |
| B2.3 | How do Enterprise appraisal waiver offers differ between Freddie Mac and Fannie Mae? Are both Enterprises equally likely to offer a waiver on a given property? Please elaborate. | Black Knight does not a view or opinion on this matter. |
| B2.4 | How can lenders manipulate automated underwriting systems when seeking an appraisal wavier? For example, lenders changing the loan amount, submitting data changes multiple times, or submitting to both | See B2.3. |

	Enterprises and delivering to the one who offers the waiver? How do the Enterprises minimize this manipulation?	
B2.5	What are the challenges associated with quality of service, enforcement and consumer protections related to non-appraiser entities providing property inspection data?	See A1.5.
B2.6	Is there any data or evidence you could share regarding the performance of alternative appraisal solutions versus traditional appraisals?	Alternative appraisal solutions centering AVMs have a clear dependency on the performance of such AVMs for their efficacy. As a leading AVM provider, Black Knight has implemented a large-scale, daily-executed AVM testing framework to monitor the performance of each of its AVMs. Black Knight's AVMs' performance, when measured for accuracy and hit rate, continue to lead the industry. This has been validated by independent third-party testing, not just Black Knight's own internal testing.
B2.7	Should Enterprise type COVID-19 appraisal flexibilities be part of an updated appraisal process to address disasters and other events to lessen market impacts?	Yes. With the right solutions and safeguards in place, Black Knight believes the benefits of these alternatives outweigh the risks. Though clearly any risks must be mitigated with appropriate safeguards.

Operational Questions on Appraisal Process Improvement

C1.1	What do you envision the impact of appraisal process improvements as described in this RFI to be on the appraisal industry? What impact, if any, has increasing use by the Enterprises of alternative appraisal solutions had on the availability and/or quality of traditional appraisals?	If the current appraisal process/ecosystem remains unchanged, it has, Black Knight believes, an uncertain future. The lack of new entrants to the appraisal profession combined with the aging of the profession, means, inevitably, that surging mortgage volumes will result in slower turn times. The kernel principle of real estate valuation is to establish a credible, and transparent, market value of real estate that is fair and can be relied upon by others for effective judgment and decision making. Any modernization efforts should have as their core objective the improvement of this key tenet and an increase in public trust.
C1.2	What would be the impact of appraisal policy and process improvements to the mid or late career appraiser? Do you believe late career appraisers would delay retirement if they could focus on specific valuation services like desktop appraisals? Or	'Team' or hybrid appraisals would allow two different individuals to perform the steps expected to be performed in the traditional process. Younger professionals or potential entrants to the appraisal profession are more likely to adopt technologies such as mobile tools. These mobile-enabled professionals would complete the task of actual property inspection, that is, in general, a more

	alternatively, would late career appraisers cease operations due to technology adoption challenges?	physically challenging part of the process and one that is the most affected by weather elements. Mid to late career appraisers would have the benefit of working on a computer in an office/home-office environment, which is a generally less physically challenging environment. In Black Knight's view, this should allow those older appraisers concerned with the physical challenges of inspecting a property to extend their professional careers.
C1.3	Do you believe appraisal policy and process improvements would have a positive impact on access to credit, including for rural and underserved markets by providing additional valuation services that serve the needs of these markets?	Yes. A robust, efficient, transparent real estate valuation process is foundational to homeowners and borrowers' confidence in the US housing finance system. Modernizing this process to meet consumer expectations while maintaining the safety and soundness of mortgage lending requires the FHFA and the Enterprises to continue to balance these imperatives. Rural and underserved markets are two areas where the kinds of process improvements discussed in this document could be particularly beneficial.
C1.4	Is there discrimination in current collateral valuation practices? If you believe there is discrimination, describe the impact. Please provide any relevant data or analyses to support your position. Conversely, are there concerns that alternative or automated solutions could have a discriminatory impact?	Black Knight's market-leading AVM solutions use a variety of modeling techniques and data sources: • High-performing appraiser emulation models based utilize public record and MLS data: • Hedonic sales comparison, Appraiser emulation, Real estate agent emulation, Assessor emulation, Seller emulation, Buyer emulation • Active listings, off-market and sales information are incorporated for increased geographical coverage and accuracy • Sub model results are weighted to arrive at a value conclusion and confidence score Black Knight's AVMs consistently blind-tested by independent testing companies and are developed and maintained by experienced developers and supported by a team of seasoned modelers and data scientists. Black Knight's goal throughout the modeling process is the minimization of bias and the optimization of accuracy. Black Knight also supports and commends the approach in this area articulated by the Mortgage Bankers Association as documented in its response to this RFI.

| C1.5 | What are the fair housing impacts of current FHFA and Enterprise policies and procedures on appraisals and valuations, and how can these policies change to further fair housing? Please provide any relevant data or analyses. | See C1.4. |
| C1.6 | Do you have any additional feedback on issues and questions raised by this RFI? | This RFI and responses to it across the industry provide an important contribution to the ongoing industry dialogue both on the importance of the appraisal industry itself and the current and future opportunities to enhance it.

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