TABLE OF CONTENTS

Introduction..........................................................................................................................................................................................3

Pillar One: Modernizing the MBS Program and Platform ...........................................................................................................4

User Experience Improvement.............................................................................................................................................................4

Data and IT Modernization.................................................................................................................................................................6

Digital Collateral Strategy.................................................................................................................................................................7

Pillar Two: Enhancing Counterparty Risk Management ...........................................................................................................9

Getting more capital into the system by fostering investment in Ginnie Mae servicing ................................................................10

Enhancing counterparty risk management ................................................................................................................................11

Pillar Three: Strong Focus on Innovation .......................................................................................................................................13

Loan-Level Servicing Transfers......................................................................................................................................................13

Loan-Level Credit Risk Transfer......................................................................................................................................................14

Conclusion....................................................................................................................................................................................................15
Introduction

The Government National Mortgage Association (Ginnie Mae) has worked since 1968 to make affordable housing a reality for millions of Americans. Chartered by the federal government and located within the Department of Housing and Urban Development (HUD), Ginnie Mae is the primary funding mechanism for all government-insured and government-guaranteed mortgage loans. It is the only federal agency tasked with the administration and oversight of an explicit, paid-for, full-faith-and-credit guaranty on mortgage-backed securities (MBS).

The success of our MBS Program is critical to the U.S. housing finance system and to the many borrowers who rely on government lending to realize their dreams of homeownership. This group includes veterans, low- and moderate-income borrowers, minority borrowers, rural borrowers and first-time home buyers. Many of them might not have been able to obtain a loan if it weren’t for the work Ginnie Mae does.

During Ginnie Mae’s 50-year history, the program has proven its stability, scalability and utility through a variety of market cycles — including the 2007-2008 financial crisis and ensuing recession, through which Ginnie Mae maintained its profitability. The years since the recession have seen a significant increase in market share for Ginnie Mae and an influx of new participants into the MBS Program. A notable result of this has been a dramatic increase in the share of the MBS portfolio generated and serviced by non-bank institutions, who play a valuable role in ensuring the availability of adequate home financing but also have markedly different risk characteristics compared to banking institutions.

Industry evolution is a constant, and Ginnie Mae must continue to evolve so that the supply of low-cost capital for homeownership is sustained. As part of this evolution, Ginnie Mae is committed to clearly articulating our strategic direction to market participants.

In this paper we explain how we will proceed strategically through 2020, the 50th anniversary of Ginnie Mae’s development of the MBS. We will describe how we are investing in improvements and organizing our efforts around three pillars of progress:

- Modernizing the MBS Program and platform
- Enhancing the management of counterparty risk
- Demonstrating the ability to innovate

The following sections provide greater detail about the objectives and initiatives within each pillar, what Ginnie Mae intends to achieve by 2020, and how the organization is readying itself for the next decade and beyond.
Pillar One
MODERNIZING THE MBS PROGRAM AND PLATFORM

The Ginnie Mae MBS platform, which has performed reliably for decades, is an easily overlooked asset of the U.S. government. The initiatives described here will help ensure that the platform takes advantage of technological progress and is positioned to maintain its utility for many years to come.

At Ginnie Mae, we don’t lose sight of the core activities that allow us to link the global capital markets to the needs of U.S. homeowners: converting pools of federally-insured mortgages into guaranteed securities and providing information about those securities to the market. The Ginnie Mae MBS Program is built upon our platform, which broadly speaking means the processes and systems that enable us to securitize mortgages and disseminate data. Ginnie Mae is dedicated to making technological improvements that deliver a better and safer experience for both the Issuer and the investor.

Our modernization efforts have focused on streamlining our users’ experience and access to the program and platform, updating data protocols and storage, and facilitating the use of digital collateral. The steps we are taking have a number of benefits, including:

- Decreasing cost and risk to the market and, ultimately, the taxpayer.
- Increasing efficiencies.
- Improving user experience.
- Increasing security.
- Safeguarding the system’s stability.

User Experience Improvement
Because Ginnie Mae guarantees but does not issue MBS, the Issuer is the key partner in fulfilling our mission. Ginnie Mae has vastly improved the experience of using the program and platform. Over the next two years, stakeholders will reap the benefits of that work as we modernize securitization applications; roll out a new Issuer portal, MyGinnieMae; introduce a centralized Help Desk; and replace physical authentication “tokens” with electronic versions for day-to-day system access.

Enhancements to Securitization Applications
Ginnie Mae is improving applications as new technologies become available. Prime examples of this are the “pool
delivery modules” through which the security issuance process begins. The first application in the queue to be implemented is the Multifamily Pool Delivery Module, now in pilot, to be followed by the Single-Family Pool Delivery Module and then the HMBS (reverse mortgage) Pool Delivery Module.

MyGinnieMae Portal
A single gateway to all of Ginnie Mae’s systems, applications and resources — called the MyGinnieMae Portal — will boost efficiency for our business partners and provide a consistent user experience by eliminating dissimilar entry-point interfaces.

MyGinnieMae provides enhanced security and a single entry point to all approved applications for each individual user, as well as a seamless user registration and access request process for both the user and the approving authority. The portal will be a one-stop, full-service solution for accessing Ginnie Mae business applications.

MyGinnieMae is secure. Federal Identity, Credential, and Access Management and the National Institute of Standards and Technology require it to use single sign-on and multi-factor authentication, which improve our cyber security operations in multiple ways:

- **Single Sign-On**: Provides seamless access to Ginnie Mae business applications using a single ID and password.
- **Secure Image and Phrase**: Assures users that they are accessing the actual portal when they see their designated secure image and phrase in conjunction with the login screen.
- **One-Time Password (OTP)**: Sent the first time a user logs into a secured business application during each portal session, an OTP protects against access by unauthorized users.

Ginnie Mae is dedicated to making technological improvements that deliver a better and safer experience for both the Issuer and the investor.

MyGinnieMae will be the primary vehicle for conducting business, building user communities and sharing information. It enhances collaboration by enabling user discussion, messaging and other interactions, as well as offering shared workspace for all users while also allowing for customized landing pages. As the portal continues to evolve, Ginnie Mae will develop a knowledge center that answers user FAQs and facilitates informed decision-making.

In late summer 2018, Ginnie Mae will test the portal with a small number of “early adopter” Issuers. Once we have migrated all Ginnie Mae data to the portal, we will transition the rest of the Issuer community to MyGinnieMae.

Centralized Help Desk
Today, Ginnie Mae offers two toll-free numbers for Help Desk support, in addition to many other points of online contact. Implementation of a new, centralized Help Desk will consolidate these contact points.
Eventually, Ginnie Mae plans to migrate to a single toll-free number for all business inquiries, through which inquiries will be documented, classified and routed according to their level of urgency and complexity. By centralizing inquiries, Ginnie Mae will be better positioned to evaluate pain points, identify recurring issues and assess overall performance of our business applications.

The strategy specifics and implementation timeline for this centralized Help Desk will be further developed throughout 2019.

**Soft Token**

Today, business partners use a hard SecurID token when submitting data into a specific subset of Ginnie Mae applications. Hard tokens have limitations: the devices that generate the number to be used can easily be misplaced, must always be accessible to the user and must be replaced when they expire.

By contrast, a soft token is a software-based security token that generates a single-use login PIN. Soft tokens replicate the security advantages of multifactor authentication, while simplifying distribution and lowering costs. A soft token app performs the same task as a hardware-based security token. Migrating from a hard token to a soft token will lower costs and introduce efficiency and is necessary as Ginnie Mae works to complete its data center migration effort, as described below.

**Data and IT Modernization**

As Ginnie Mae continues to modernize the applications available through its platform, it has also made strides in managing data as a corporate asset. Strategic efforts to adopt industry data standards, transform legacy data architectures and invest in cloud technology will support evolving business requirements.

One major data standards initiative is Ginnie Mae’s adoption of information protocols put forth by the Mortgage Industry Standards Maintenance Organization (MISMO). For example, Ginnie Mae’s Single-Family Pool Delivery Module project creates a MISMO-compliant method for Issuers to deliver single family pools. This benefits Ginnie Mae and its stakeholders by further aligning our data collection standards with the mortgage industry, as well as ensuring the MBS Program platform can accommodate the likely growth in digital mortgages.

Through its IT modernization program, Ginnie Mae will be positioned to meet Federal Data Center Consolidation and Data Center Optimization Initiatives. We will have a consolidated IT infrastructure with central management of our data center operations and a more efficient...
cloud/shared service computing platform. Consolidating infrastructure will eliminate application complexity and the need for design across multiple data centers.

To facilitate these consolidation and efficiency efforts, in 2017 we awarded a 10-year vendor contract to provide cloud-hosting services and move Ginnie Mae’s IT infrastructure into a government SmartCloud. This long-term contract eliminates the potential business continuity risk of re-competing data center contracts more frequently.

Early in 2018, we successfully completed our first three waves of migration, including accounting and financial reporting operations, general ledger system, website, Issuer reporting feedback system, investor reporting applications and a host of other applications that manage counterparty risks and Issuers’ portfolios. We also decommissioned hardware and software operations at our former hosted data center in May 2018.

Throughout 2018, we will continue to migrate many securitization platform modernized applications, currently hosted at our pool processing agent, to the government SmartCloud. All migration activities will be complete in fiscal year 2019. Legacy mainframe processing operations will remain at Ginnie Mae’s pool processing site.

Digital Collateral Strategy

Ginnie Mae has committed to developing and implementing the policies, technology and operational capabilities necessary to take in digital promissory notes and other digitized loan files as acceptable collateral for our securities. After an extensive review of the landscape, Ginnie Mae concluded that creating a digital mortgage ecosystem, from loan application through securitization, will increase access to credit for many Americans and enhance the integrity of our collateral by reducing the risk from defects in loan instruments.

Our approach will allow us to gradually implement policies and systems that fully incorporate digital mortgages into Ginnie Mae’s business model. The business model we envision will allow Issuers to securitize digital promissory notes that are executed on a uniform smart document format, with elements and specifications like the SMART Doc format used by the Government Sponsored Enterprises (GSEs) Fannie Mae and Freddie Mac. The desired format will leverage MISMO standards to facilitate integration and data exchanges. The use of a specified uniform format will also enable Ginnie Mae to replace manual processes with automated system-based solutions and streamline the initial certification process for loan packages that contain digital mortgages.

While we engage in the technical work necessary to promulgate the standards applicable to electronic closings, digital instruments and electronic vaults, we will also work with the housing programs we support to standardize policies and any other origination requirements for digital mortgages. We will also work closely with the GSEs to benefit from their experience with digital mortgages and to ensure our solution can easily be adopted by Issuers already using similar technology for conventional loans. We believe aligning policies across federal housing programs and developing technical standards are foundational steps; they will be our priority during the initial stages of our digital collateral strategy.

We aim to complete these foundational steps by 2019 and then authorize pilot programs enabling Issuers to securitize digital mortgages, even as we continue to develop other aspects of our Digital Collateral Strategy. The pilot programs will enable us to test our approach, optimize processes and arrive at a strategy that promotes large-scale adoption.

Something to note about the business model we are contemplating as part of a pilot approach is that it would prohibit Issuers from commingling digital mortgages with...
traditional paper mortgages in the same loan package. We would have two reasons for requiring the separation of digital instruments from traditional collateral files.

First, pools or loan packages comprised of digital mortgages (Digital Mortgage Pools) would be subject to a different pool certification process. Unlike traditional pools that are delivered to and certified by a third-party custodian, Digital Mortgage Pools would be delivered directly to a designated Ginnie Mae electronic vault and subject to an automated, system-based initial certification process.

Ginnie Mae has already begun to develop a plan to obtain the software, services and partnerships necessary to develop auto-certification capabilities, similar to the auto-certification services offered by the GSEs.

As outlined above, Ginnie Mae is in the final stages of implementing its Single-Family Pool Delivery Module, which implements MISMO standards. Having a MISMO-compliant pooling and delivery system will enable Ginnie Mae to validate that the borrower, property and loan data attributes received as part of a pool data set are consistent with the digital instruments delivered to Ginnie Mae’s eVault. We have also initiated an acquisition strategy for obtaining the necessary eVault services, which may include leveraging existing contract vehicles or using a new and separate procurement process for these services. Despite the implementation of automated initial certification processes, our business model will continue to leverage third-party custodians for final certifications and for maintaining loan files that are not yet digitized (such as title insurance policies).

Second, by segregating digital mortgages, we intend to protect the marketability of any loan package containing traditional paper notes. As an integral part of our mission, we need to promote the liquidity of mortgage servicing rights (MSRs). When we consider the pool-level structure of the MBS Program, we believe that allowing traditional paper notes to be included within a pool or loan package, which also contains digital mortgages, may reduce the marketability of the corresponding MSR.

Despite this segregation at the pool level, Digital Mortgage Pools will qualify for delivery into multiple Issuer securities, along with other pools comprised of traditional paper notes. We plan to adjust pool and loan package requirements to accommodate various levels of digital mortgage production and will be considering additional incentives for Issuers to go digital.

As we venture into the securitization of digital mortgages, we look forward to receiving feedback from industry subject matter experts and MBS Program participants. We will announce additional details about our implementation timeline and the availability of pilot programs as they are developed.
Pillar Two

ENHANCING COUNTERPARTY RISK MANAGEMENT

Ginnie Mae’s approaches to counterparty risk are evolving to be appropriate to circumstances and the need to safeguard the government guaranty that we steward.

Ginnie Mae primarily relies on private sector institutions, including banks and other lenders, to issue and service the MBS we package and guarantee. Ginnie Mae guarantees that investors who own the securities will get paid their principal and interest on time, no matter what. If borrowers do not make their payments on time, Issuer servicers must still make payments to investors. But what about the possibility that a servicer will fail to live up to its responsibility to make payments, requiring the government, through Ginnie Mae, to step in? That “counterparty risk” is of paramount concern and drives many of Ginnie Mae’s strategic decisions.

Ginnie Mae already takes many steps to manage counterparty risk. These include controls on whether companies can become Issuers, day-to-day interactions to ensure Issuers are meeting our standards and guidelines, ongoing monthly and quarterly monitoring, standards for approving or not approving particular transactions, and a host of activities we undertake if there is a threat or occurrence of Issuer failure. But as our share of securities outstanding and prominence have grown, it is incumbent on us to continually upgrade the safeguards against Issuer failures.

Because Ginnie Mae operates in an industry centered on flows of cash, counteracting counterparty risk entails paying close attention to liquidity. As the Brookings Institution points out in its February 2018 paper, “Liquidity Crises in the Mortgage Market,” the U.S. housing finance system’s vulnerability to a liquidity crisis is underappreciated. Particularly in government-insured lending, where non-banks with greater need for external liquidity play an increased role in issuing and servicing Ginnie Mae MBS, the paper’s authors say such vulnerability is acute and must be addressed.
Ginnie Mae has long emphasized the importance of liquidity in the post-financial crisis era, in tune with the observations of the Brookings paper. We have written about the topic, including in the September 2014 white paper, “An Era of Transformation.” We brought subject matter experts together to talk about the problem and potential solutions at our June 2016 symposium, “Managing Value and Liquidity in the Servicing Market.” And we have devoted a significant portion of our program development in recent years to liquidity-related efforts. For example, we enhanced Issuer access to financing through our Acknowledgment Agreement and we supported the greatly increased level of servicing transfers that occurred beginning in 2012.

Addressing counterparty risk and liquidity will continue to be high priorities for Ginnie Mae through 2020 and beyond. We are looking at two areas for risk management enhancement: getting more capital into the system and enhancing counterparty risk management.

**Getting more capital into the system by fostering investment in Ginnie Mae servicing.**

Ginnie Mae’s statutory purpose, spelled out in Title III of the National Housing Act, is to “promote access to mortgage credit … by improving the distribution of investment capital available for residential mortgage financing.” So, it is in keeping with our mission to expand the supply of stable capital available to support MSRs. We are considering several ways of doing that.

**Make It Easier for Issuer Servicers to Get Advance Financing**

It is difficult for servicers in the government sphere to get financing for security holder payments, insurance premiums, taxes and other remittances. The Brookings paper described the need to advance such payments to various entities as “the crux of the liquidity issue in mortgage servicing.” Servicing advances are a particular risk to Ginnie Mae because our model places greater advancing demands on its Issuers than the GSE models do. The fact that it is harder to obtain secured financing for that function is problematic.

Ginnie Mae has already made it easier for Issuers to leverage the value of their MSRs via our Acknowledgment Agreement. We are now exploring whether Ginnie Mae can, or should, change how advances are handled when an Issuer has failed, which would make it easier to finance these cash flows. This step could potentially alleviate one of the greatest sources of counterparty risk we face: the potential for an Issuer to be overwhelmed by the need to advance on defaulted loans in a time of economic stress.

Many factors would affect the availability of such financing, and making it more available could require statutory or regulatory changes.

**Allow a Broader Range of Institutions to Own MSRs**

Increasing the store of capital in this sector would reduce the capital demand on traditional participants in our program and reduce the cost of homeownership. We are considering new approaches because our traditional model — in which the originator of a loan pools it into, and then services, a guaranteed security — has become increasingly fragmented. There is now much more specialization in residential finance. To some degree, our...
program and procedures have been able to keep pace: We have successfully accommodated long-standing trends such as third-party origination, servicing transfers, subservicing arrangements and MSRs financing.

But the amount of fragmentation the Ginnie Mae model can accommodate under its current authority has limitations. Only institutions whose primary line of business is mortgage origination and servicing can directly own Ginnie Mae MSRs. Institutions willing and able to invest capital in MSRs as passive owners can do so only through arrangements that are complex and lack a certain degree of transparency — and are therefore unattractive to many institutions. At the same time, a number of our current Issuers have told us they want to focus on servicing operations and reduce their exposure to the volatile and capital-intensive business of MSR ownership.

Statutory or regulatory change might have to occur before new types of entities could own MSRs. And we would need to ensure that capital from nontraditional sources was available on terms that promote stability and discourage large-scale withdrawal of capital in times of stress.

**Enhancing counterparty risk management.**

We are strengthening the ways we monitor counterparties. Stronger oversight will reduce the possibility we might need to use government funds in exercising our guarantee. The steps we will be taking include:

- Ginnie Mae classifies Issuers according to their financial strength and manages their participation in our program differently depending on their classification. New requirements will soon begin
phasing in that subjecting Issuers to an analysis of how their financial strength would be impacted by adverse future scenarios. These “stress testing” exercises will play an increased role in our dialogues with Issuers and oversight activities in the future.

- Ginnie Mae is also developing modeling capabilities that evaluate exposure to a single counterparty, relative to the combination of the counterparty’s financial health and the value of its MSR portfolio. This modeling will inform decisions about how much exposure to individual Issuers Ginnie Mae will permit.

Special Requirements for Very Large Institutions
Ginnie Mae has begun to evaluate institutions partly in terms of whether, in the event of a failure, the MSRs that Ginnie Mae has guaranteed could be expected to be readily absorbed by the private market or managed through Ginnie Mae’s contracted servicing capabilities.

New requirements are forthcoming that require institutions whose Ginnie Mae portfolio exceeds certain size thresholds to obtain and maintain credit and servicer ratings from approved rating agencies. Ginnie Mae believes that Issuers who attain a certain level of prominence within the housing finance system should be expected to make greater investments in transparency compared to other Issuers. The stress testing regimen mentioned above would probably be implemented first with Issuers who meet the thresholds for required ratings.

In addition, and building on recent requirements that Issuers maintain diversified portfolios, steps will be taken to ensure that the Ginnie Mae portfolio as a whole is serviced by a sufficiently diversified set of Issuers and subservicers. This concern could lead to limits on the share of the total MSR portfolio that any one Issuer or subservicer could own or service.

Ginnie Mae is exploring how to make it easier for the government to manage the failure of a large mortgage servicer.

Finally, Ginnie Mae is exploring how to make it easier for the government to manage the failure of a large mortgage servicer, such as by using a “living will” approach. Ginnie Mae will be developing enhanced requirements geared toward resolution activities in the coming period.

The rationale for the steps described above is the statutory mandate for Ginnie Mae to “provide stability in the secondary market for residential mortgages,” as laid out in Title III of the National Housing Act. By working to expand the supply of long-term capital dedicated to ownership of MSRs and developing stronger risk and exposure thresholds, we believe we can promote a more stable ecosystem with a diverse range of participants.

Over the next few years Ginnie Mae will continue to improve its ability to manage Issuer failures when they do occur. Policies and procedure enhancements will begin with identifying and monitoring high-risk Issuers and end with the disposition of assets acquired from terminated Issuers. The result will be a Ginnie Mae that can efficiently manage failures while reducing taxpayer losses and disruption to the market.
The coming years will undoubtedly bring opportunities to innovate and re-shape the MBS Program so that it continues be an effective funding vehicle, and Ginnie Mae will be actively working with industry partners to explore and capitalize on these opportunities.

Ginnie Mae is committed to testing new ideas for responding to needs not otherwise provided for in today’s MBS Program. Below, we mention three possible initiatives in the early stages of exploration. Ginnie Mae is still determining whether full-scale development would be desirable or feasible; if we decide to pursue an idea further, the likely path is to develop a pilot program to test functionality and industry adoption. We aim to explore all avenues for ensuring the MBS Program continues to make homeownership a reality for the millions of Americans federal housing programs serve.

### Loan-Level Servicing Transfers

The foundation of the Ginnie Mae MBS Program is aggregating mortgage loans into pools and converting those pools into securities whose payment is guaranteed. Information about pooled loans is broken out by loan when the pool is created and once a month after that. But much of the fundamental operation of the MBS platform — such as how Ginnie Mae administers and certifies pool and collateral reporting — is denominated by pool. Today, the MBS Guide states explicitly that there can only be one Issuer of record for a given pool.

This requirement constrains the liquidity of MBS in the government arena. It also means pool servicing rights cannot be redistributed among multiple Issuers in a way that makes sense for all parties. The restriction may be
preventing institutions from investing more heavily in Ginnie Mae MSRs.

Ginnie Mae is exploring the feasibility of introducing loan-level servicing transfers, a change a number of our Issuers have called their highest priority when it comes to our platform.

**Loan-Level Credit Risk Transfer**

In the Ginnie Mae model, private capital precedes and prevents the use of taxpayer funds to make good on the government guaranty of securities. That arrangement undergirds our long-term success.

Elsewhere in mortgage finance, transfer of the loan-level credit risk that underlies conventional MBS has become commonplace. Ginnie Mae is part of HUD discussions about whether to develop programs that transfer a portion of the government’s credit risk exposure. We’re also willing to consider proposals for how such a risk-transfer program could be designed and executed within our statutory authority, using the existing MBS Program.

If Ginnie Mae and our partners can identify an economically, legally and operationally feasible risk-transfer approach, we will work with others to develop a project to pilot the concept.

**Whole Loan Asset Sale or Securitization**

Because Ginnie Mae MSRs are collateral for the government guaranty of MBS, Ginnie from time to time acquires ownership of portfolios from institutions who have failed and had their MSRs “extinguished.” In the past, Ginnie Mae has used a master sub-servicer to service those MSRs long term. Ginnie Mae has also sold MSRs into the secondary market. But because we believe our capabilities should encompass the full range of asset disposition possibilities, we are also developing the capability to dispose of loans that have been removed from securities we service (“whole loans”). Whole loans could be sold for cash or re-securitized.

Successfully executing transactions involving whole loan assets would enable Ginnie Mae to make asset management decisions that lead to the most desirable outcome, rather than limiting our choices because of restricted capabilities.
Conclusion

Ginnie Mae occupies a vital place in housing finance. We fund the government loan market so millions of Americans — including low- and moderate-income borrowers, minority borrowers, rural borrowers and first-time home buyers — can buy, rent or refinance their homes. We support veterans by attracting the global capital that funds loans under Veteran Administration loan guaranty programs.

Our model has proven to be reliable, flexible and scalable, particularly over the last decade. Ginnie Mae can “wrap” $500 billion in loans — as we did just a few years ago — or the nearly $2 trillion in securities outstanding today, or even more if tasked to do so in the future. We are fully equipped to continue serving the mission defined by Congress in our charter.

We are diligently working to ensure that by 2020, we will bring significant enhancements to the MBS Program, incorporating technological progress and new ways of recognizing and managing risk. We will continue to innovate by exploring new ways of applying the basic principles that have worked so well in the five decades since the inception of the MBS Program.

The initiatives discussed in this document — some of which will continue beyond 2020 — are driven not just by our mission to attract capital and promote stability, but also by our vision of what Ginnie Mae should strive to be as an organization: a model for effective government involvement in a sizable, complex, market-oriented segment of the economy.

Housing finance has changed significantly over the past decade. No matter what tomorrow’s environment may bring, Ginnie Mae will continue to play an important role in making affordable housing a reality for millions of borrowers.