

Single Security Initiative

Single Security Tabletop Live Exercise

December 6th, 2018





Time	Duration	Topic
10:00 AM – 10:15 AM	15 mins.	Welcome & Agenda
10:15 AM – 11:30 AM	75 mins.	Scenario 1&2: UMBS Trade/ Dollar Roll & Index Updates
11:30 AM – 12:00 PM	30 mins.	Scenario 3: Dealer-Facilitated Gold PC Exchange
12:00 PM – 12:45 PM	45 mins.	Lunch & Break
12:45 PM – 1:45 PM	60 mins.	Scenario 4: Direct-to-Freddie Gold PC Exchange
1:45 PM – 2:15 PM	30 mins.	Scenario 5: Commingled Issuance
2:15 PM – 2:45 PM	30 mins.	Other Scenarios & Questions
2:45 PM – 3:00 PM	15 mins.	Wrap up & Closing



Today's Goals

- Review the key market scenarios that will be part of the transition from two TBA markets to one combined market for Fannie Mae and Freddie Mac
- Share service providers' planned updates and system/screen changes
- Provide a level of confidence that the market will be ready for the UMBS market
- Identify gaps and activities where additional guidance is needed
- Gauge preparedness for UMBS implementation, and determine additional assistance/information that may be needed



Scenarios 1&2: UMBS Trade/Dollar Roll, Index Updates



Trades over Transition Period to UMBS

Trade Type	Transaction Date	To Close Position	To Roll Position	What's changing?	Considerations
FNCL Trade - Fannie Mae MBS ("01F")	Before Implementation (March 2019 trade, April 2019 settle)	Pair off position or deliver Fannie Mae MBS	May 2019 TBA	No change (Regular Roll)	
	Before Implementation (April 2019 trade, May 2019 Settle)	Pair off position or deliver Fannie Mae MBS	Roll position by selling May 2019 Fannie Mae TBA and buying June 2019 UMBS TBA*	Still Buy & Sell "01F" TBA for both sides of roll; however, deliverables change for June TBA	If required FNM issuer, back end UMBS TBA needs to be stipped
FNCL Trade - UMBS* ("01F")	During Implementation (May 2019 trade, June 2019 settle)	Pair off position or deliver UMBS**	Roll position with UMBS TBA* (Sell June 2019 UMBS TBA – buy July 2019 UMBS TBA)	No Change (Regular Roll)	
	After Implementation (June 2019 trade, July 2019 settle)	Pair off position or deliver UMBS*	Roll position with UMBS TBA* (Sell July 2019 TBA – Buy Aug 2019 TBA)	No Change (Regular Roll)	If required FNM issuer, back end UMBS TBA needs to be stipped
FGLMC Trade – Freddie Mac PCs ("02R")	Before Implementation (March 2019 Trade, April 2019 settle)	Pair off position or deliver 45-day Freddie Mac PCs	Roll position with Freddie Mac TBA (02R)	No Change (Regular Roll)	
	Before Implementation (April 2019 Trade, May 2019 settle)	Pair off position or deliver 45-day Freddie Mac PCs	Roll position by selling May 2019 02R Freddie TBA and buying June 2019 UMBS TBA 01F	Still Buy "02R" & Sell "01F" UMBS TBA for deliverables change for June TBA Regular Roll - No Change	If required FRE issuer, back end UMBS TBA needs to be stipped
	During Implementation (May 2019 trade, June 2019 settle) **	Pair off position or deliver 45-day Freddie Mac PCs	Sell June 2019 01 F TBA – buy July 01F 2019 TBA	Regular Rolls – No change	If required FRE issuer, back end TBA needs to be stipped Know what product you want to trade ("02R" or "01F")



Fannie Dollar Rolls

	April	April – May	May	May - June	June	Key risks/points of failure
Investor	Sell May 01F		Buy June 01F	Sell June 01F	Buy July 01F	
Dealer	Buy May 01F	Sell June 01F		Buy June 01F	Sell July 01F	
Pricing Vendor	Provide pricing					
Netting & Clearing	Continue to net and clear under 01F					
Guidelines & Regulatory	Confirm good delivery					



Freddie Dollar Rolls

	April	April – May	May	May - June	June	Key risks/points of failure
Investor	Sell May <u>O2R</u>		Buy June <u>O1F</u>	Sell June <u>O1F</u>	Buy July <u>O1F</u>	
Dealer	Buy May <u>O2R</u>	Sell June <u>O1F</u>		Buy June <u>O1F</u>	Sell July <u>O1F</u>	
Pricing Vendor	Provide pricing					
Netting & Clearing	Continue to net and clear under O2R			Starting in June all TBA eligible 55-day net and clear under O1F		
				Net and clear 45-day TBA eligible under O2R until market fades		
Guidelines & Regulatory	Confirm good delivery					



Freddie Dollar Rolls

- Investors have three options for existing Golds if they want to roll into the next month during this transition:
 1. For a limited time Gold rolls may be offered
 2. Close the position by either pairing off or taking delivery of the 45-day Gold PCs.
 3. Roll the position by selling Freddie TBA and buying UMBS TBA. Note that the decision to roll from 45-day into 55-day UMBS must be worked out with the trade counterparty.
- Firms should discuss any potential accounting implications related to swaps and rolls with their internal / external accountants and legal counsel.

Questions for Discussion

- What will vendors display on their screens?
- How will vendors reflect simultaneous trading in the UMBS forward market and the current two TBA markets (Fannie Mae and Freddie Mac)?
- Will prices be based on Fannie MBS prices?
- Then, once we reach the go-live in June, how will these trades net and clear through FICC?
- Are there index changes that need to be made to reflect new forward trades in advance of June?
- How will 45-day and 55-day TBA securities be represented in the indices?
- *Service Provider Discussion Participants: Bloomberg, eMBS, Tradeweb/Dealerweb, BlackRock Aladdin, IHS Markit, Thomson Reuters, FICC, Charles River, the ICE*



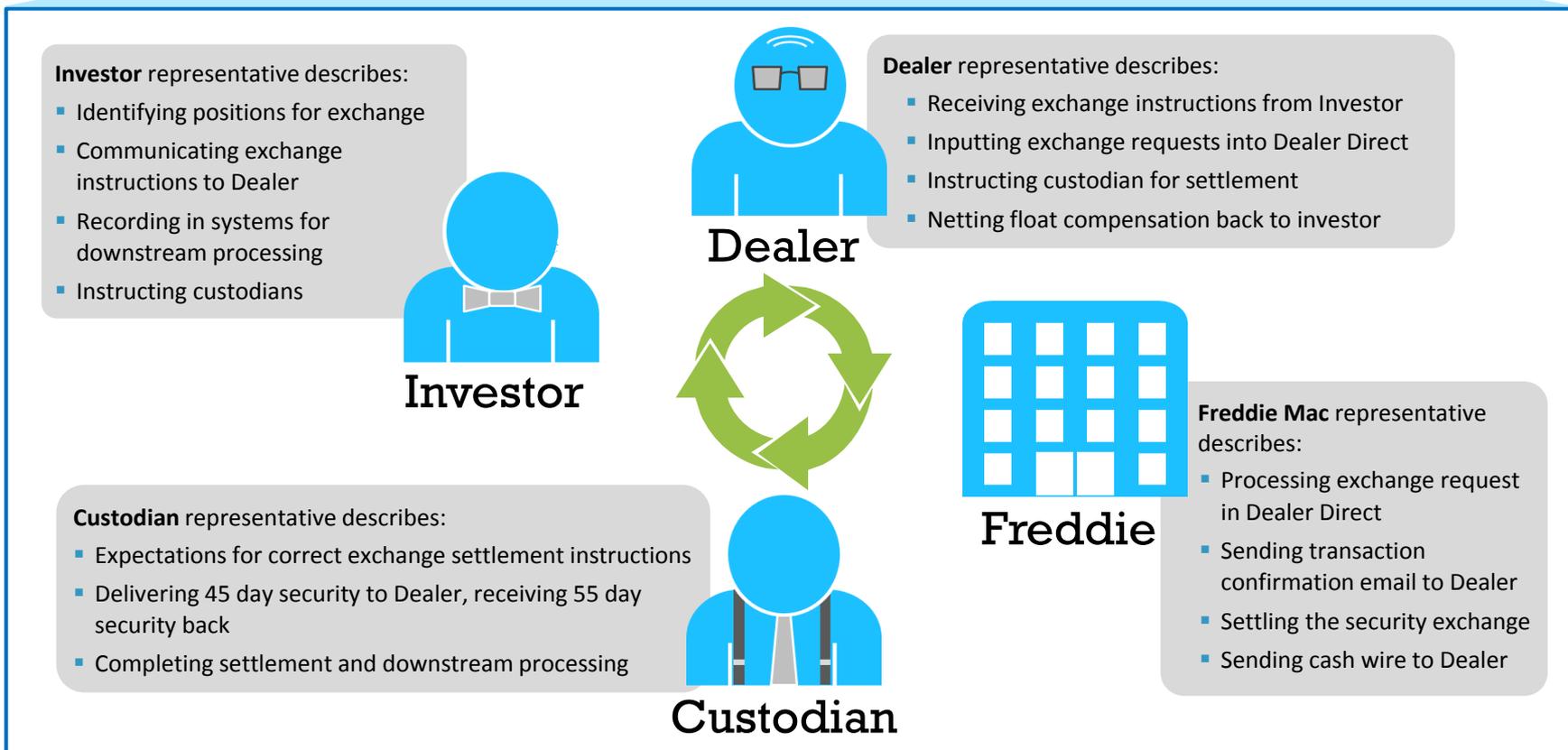
Scenario 3: Dealer-Facilitated Gold PC Exchange



For this scenario we will discuss

- How will the dealer facilitated exchange work?
 - What are the proper delivery instructions and concerns?
 - How will Freddie Mac handle fails?
 - What are the key issues to manage this path?
-
- *Service Providers Discussion Participants: Bloomberg, Broadridge, Blackrock Solutions*
 - *Discussion Participants: Investors, Dealers, Custodians*

Tabletop Exercise Dealer Exchange Example





Dealer-Facilitated Path: Initial Setup

- Investor
 - What is the exchange strategy. Timing, number of securities, dealers, bookkeeping implications, etc?
 - Are there any concerns with initial trade booking?
- Dealers
 - How would the transaction be booked? DVP or FOP
 - How would you handle capacity?
 - Treatment of Float comp?
 - Any concerns with Investor integration with exchange?
 - Any concerns with connection to Freddie?



Dealer Direct Demo/ Float Comp tool Demo

- Show booking of exchange transaction

Dealer Facilitated Path: Transaction Booking & Settlement

- Contact Dealer with request to exchange
- Through this path dealers can book transactions for current month or following month

Settlement Blackout Dates

- First 5 Business days of the month
- Reg A & Reg B Settlement Dates
- REMIC Collateral Delivery Date (EOM -2)

- Provide dealer with list of CUSIPS, par, pool number, and desired settlement date
- Dealer will enter exchange into Dealer Direct and relay confirmation back to investor
- 45-day collateral must be delivered to Freddie Mac by 12 p.m. Eastern time
- Freddie Mac will wire the 55-day security immediately upon successful validation of incoming 45-day (typically within an hour)
- Freddie Mac will hold the 45-day security in trust for the dealer until exchange is completed
- Float comp will be reflected in the DVP price for the Investor. Freddie will send cash wire to dealers at the end of the day
- All settlement occurs in one day



Questions for Discussion

- What do you expect from your investor customers when executing an exchange with you? (Dealers)
- What do you expect from your investor customers exchanging through the dealer path? (Custodians)
- Settlement fail scenario. What is the process?
 - Partial fails
 - Incorrect instructions?

Set up your systems and messaging to correctly handle exchanges:

1 Security Transfer Instruction Preparation

If you are an Investor exchanging via the Direct-to-Freddie Mac path, or a Dealer facilitating exchange transactions, please use the following information to set up your security transfer instructions

Investors or dealers delivering free to Freddie Mac will need to set up **Free Delivery / Free Receive** transfer instructions with their custodians:

1. Deliver the 45-day security to Freddie Mac's new Fed holding account:

- **FHLMC WASH/2BD7**
- **ABA# 021033205**

2. Expect to receive the 55-day Mirror from Freddie Mac's new Fed holding account:

- **FHLMC WASH/2BD5**
- **ABA# 021033205**

Custodians will use these new Freddie Mac dedicated accounts to identify the exchange nature of the instructions and trigger proper tax/accounting treatment



Set up your systems and messaging to correctly handle exchanges:

2 Custodians' SWIFT Recommendation (for MT54x messaging)

20 C

:16S:GENL

:16R:LINK

:20C::COMM//123456789ABCDEFGH

:16R:LINK

:16R:TRADDET

Common Exchange Reference ID – max 16 characters

22 F

:16R:SETDET

:22F::STCO/FHMC/UMBS

:22F::SETR//TRAD

Exchange codeword with data source scheme to be able to be used over SWIFT network

- SIFMA Custodian Working Group developed this recommendation
- Leverages standard input in existing SWIFT message tags to identify exchange transactions
- 20C is particularly important on the Direct-to-Freddie Mac path to tie securities and cash parts of the transaction together – the Freddie Mac Exchange Transaction ID will also be on the FED cash wire to the custodian *(note that some custodians may also require an MT210 message for pre-advice of the cash wire)*
- 22F is particularly important on the Dealer-facilitated path to identify the instructions as exchanges – as investors will settle DVP/RVP against Dealer's Fed accounts, the Investor's custodian cannot use the Freddie Mac dedicated accounts to identify the exchange nature of the trade



Freddie Mac Exchange

– Exchange at Market Price vs Accounting at Book Value (2/2)

e.g. Custody account ABC exchanges 120 Mio of MBS ISIN US12345678

- Settlement Instruction for Dealer Path – DVP/RVP*
 - Investor sends 1 settlement instruction to deliver versus payment 120 Mio MBS with the Universal Exchange Reference ID
 - Custodian creates 3 deliver versus payment instructions 50 Mio + 50 Mio + 20 Mio and each with the universal exchange reference ID
 - Investor sends 1 settlement instruction to receive versus payment 120 Mio UMBS with the same Universal Exchange Reference ID
 - Custodian creates 3 receipt versus payment instructions 50 Mio + 50 Mio + 20 Mio and each with the universal exchange reference ID
 - Fund Administrator extracts from each of the 3 pairs of exchange instructions the correct Float Compensation. It should be the net between DVP/RVP adjusted with potential fees, commissions... advised in the instruction related fields

- Special Scenario – Exchange amount under minimum tradeable e.g. 50,000,900 Mio
 - securities settlement instruction split to be instructed to the custodian directly as per Freddie Mac split rule published on slide 26

*As some custodians do not support the automatic 50 Mio FED trade split, the impacted investors will be sending to their custodians the split instructions



Freddie Mac Exchange

– Exchange at Market Price vs Accounting at Book Value ^(1/2)

- To ensure correct carry forward and adjustment in accounting for each lots exchanged at Market Price while accounted for at Book Value, the Fund Administrator will need extra logic
- Freddie Mac will only provide one Universal Exchange Reference ID by exchange and not by tranche of 50 Mio (FED limit) for all exchange bigger than 50 Mio

e.g. Custody account ABC exchanges 120 Mio of MBS ISIN US12345678

– Settlement Instruction for Direct to Freddie Path*

- Investor sends 1 settlement instruction to deliver free the 120 Mio MBS with the Universal Exchange Reference
 - Custodian creates 3 deliver free instructions 50 Mio + 50 Mio + 20 Mio and each with the universal exchange reference ID
- Investor sends 1 settlement instruction to receive free the 120 Mio UMBS with the same Universal Exchange Reference
 - Custodian creates 3 receipt free instructions 50 Mio + 50 Mio + 20 Mio and each with the universal exchange reference ID
- Freddie Mac instructs 1 FED wire carrying the same Universal Exchange Reference ID for the Float Compensation
 - Custodian credits it to the custody account ABC in one amount with the universal exchange reference ID
 - → Fund Administrator links the one cash amount to the 3 pair of exchange transactions + to pro-rate it as per each pair

*As some custodians do not support the automatic 50 Mio FED trade split, the impacted investors will be sending to their custodians the split instructions



Scenario 4: Direct-to-Freddie Gold PC Exchange



Questions for discussion

- How will the Direct-to-Freddie Mac Exchange path work?
 - What does the customer set-up and KYC process entail?
 - What are the different ways I might book exchange transactions?
 - How do I properly transmit instructions to my custodians?
 - How will the exchange transactions be settled?
 - Are there any outstanding issues or concerns about the direct-to-Freddie path?
-
- *Service Provider Discussion Participants: Tradeweb, BlackRock Aladdin, Charles River, Custodians*



Direct-to-Freddie via Tradeweb Path: Features

Delivery

- Counterparty is Freddie Mac
- Delivery is Free of Payment (FOP)
- Custodians directly interface with Freddie Mac as the issuer
- Whole or partial CUSIPs may be exchanged, at the sub-account level

Capacity

- Capacity is around 50,000 exchanges / day across both paths¹
- Capacity will be viewable on Tradeweb prior to confirmation of the exchange transaction
- Booking will be available for the current month

Trade Entry

- Entry will be available directly through the Tradeweb interface or via an OMS system
- Tradeweb will support a solicited or unsolicited workflow

Settlement

- Settlement is a minimum of T+1¹
- Transactions booked by noon can be settled the next day
- All settlement activity takes place for both the security and cash same day
- Freddie Mac will have dedicated exchange accounts for the incoming 45 day securities and outgoing 55 day securities
- Freddie Mac will hold the 45-day security in trust for the investor until exchange is completed
- The float compensation will be paid via a separate cash wire

Contact us: UMBS@tradeweb.com



¹During the transition, there will be fewer than 50,000 exchanges per day, and exchanges will settle T+2.

Direct-to-Freddie via Tradeweb Path: Initial Setup

1

Onboarding and Know-Your-Customer

Each investor—whether a current Tradeweb customer or not—will undergo an onboarding and Know-Your-Customer (KYC) setup process to be performed by Tradeweb.

How to initiate: Send an email to UMBS@tradeweb.com and request the onboarding package

What to expect:

- **Onboarding to begin January, 2019**– Expect a response within 2 business days of your email with details on the forms to complete and documents to provide. This process may be expedited for current Tradeweb customers.
 - **Tradeweb and Freddie Mac KYC process to begin February, 2019** – Expect a 2-3 week turnaround (from the time all documents are complete and provided to Tradeweb) on the KYC process and approval decision communication.
 - **Investors should submit documents by March 30, 2019** – To ensure you are ready to exchange when the exchange offer commences in May 2019, have all documents completed and submitted by March 30.
- **Documents to complete and/or return:**
 - Tradeweb application and user agreement (for new Tradeweb customers)
 - Tradeweb Exchange Addendum
 - Settlement contact names and phone numbers at your firm
 - Freddie Mac Investor Exchange Agreement
 - W-8 or W-9 (at the asset manager level, not sub-account level)

2

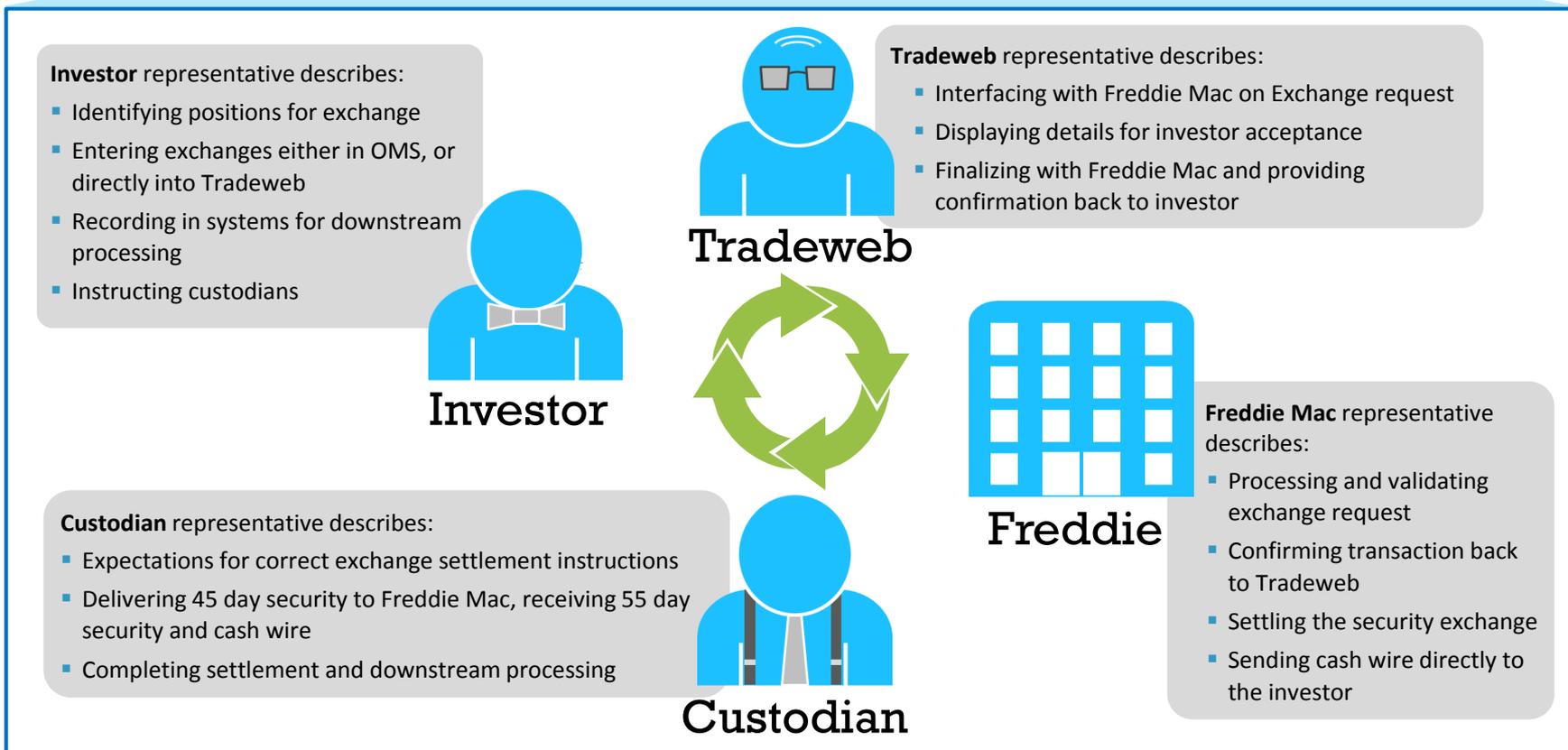
Freddie Mac Set-up as a Counterparty

Each investor will need to set up Freddie Mac as a counterparty. Please review your internal counterparty set-up requirements well in advance of your planned exchange timing.

Setup Details: Freddie Mac is providing the following to assist in your internal counterparty approval process:

- Freddie Mac Legal Entity Identifier (LEI)
- Freddie Mac Delivery Instructions (SSIs)
- Freddie Mac Operational/Settlement support contact information
- Link to Freddie Mac 10-K
- Freddie Mac W-9 (available upon request – please email Exchange_Ops@FreddieMac.com)
- Freddie Mac Certificate of Incumbency (available upon request – please email Exchange_Ops@FreddieMac.com)

Tabletop Exercise Direct to Freddie Exchange Example





Tradeweb Booking: Options for entering exchange transaction in Tradeweb

- Tradeweb will leverage its List Trade functionality to facilitate the exchange. However, the way you enter the exchange transaction into Tradeweb will depend on your own internal trade booking and downstream processing

Unsolicited	Solicited	
Non-OMS / Tradeweb UI Entry	OMS Standard FIX Workflow	OMS Exchange In/Out Workflow
<ul style="list-style-type: none"> User enters exchange “trade” directly into Tradeweb List Trade UI Tradeweb will support a user entering an exchange ticket via paste or manual entry Tradeweb will support STP (FIX or Flat File) The exchange transaction will largely look like an everyday trade on Tradeweb Exchanges may be pre or post allocated 	<ul style="list-style-type: none"> Trade entry via OMS will interface with Tradeweb in a similar manner as it does today for a typical trade Exchanges may be pre or post allocated OMS entry examples include Bloomberg AIM, Charles River CRD and Fidessa Minerva 	<ul style="list-style-type: none"> Some OMSs offer an exchange in/out workflow to allow for Free of Payment delivery OMS will send a new FIX order message (EXCH IN and OUT) to Tradeweb The “exchange out” message would be pre-allocated Example includes Blackrock Aladdin

Tradeweb List Trade Screen:

- Once entered (via OMS or directly thru the UI), transaction will largely look like an everyday trade on Tradeweb
- Tradeweb will work with clients on solutions to individual concerns within their systems
- Regardless of OMS readiness, direct entry through Tradeweb UI’s will be ready at go-live

Possibilities for Communicating Float Compensation Back to OMS:

- Utilize a “Miscellaneous Cash” field
- Use a “fee” field
- “Drop copy” outside of trade flow
- Other “bespoke” options - TBD

Direct-to-Freddie via Tradeweb Path: Transaction Booking & Settlement

- Exchanges can be entered directly through Tradeweb or via Investor's OMS
- Exchanges can only be booked for current month

Booking Blackout Dates	vs.	Settlement Blackout Dates
<ul style="list-style-type: none">• First 4 business days of the month• Last business day of the month		<ul style="list-style-type: none">• First 5 business days of the month• Reg A & Reg B Settlement Dates• REMIC Collateral Delivery Date (EOM -2)

- Investors will provide CUSIP, par amount, optional dollar price and desired settlement date
 - Tradeweb will display the float compensation and other exchange terms you must agree to
 - Trade will be submitted and return confirmation back to investor
 - 45-day collateral must be delivered to Freddie Mac by 12 p.m. Eastern time
- Freddie Mac will wire the 55-day security immediately upon successful validation of incoming 45-day (typically within an hour)
 - Freddie Mac will hold the 45-day security in trust for the investor until exchange is completed
 - Freddie Mac will return a separate wire to the investor a float compensation payment



Scenario 5: Commingled Issuance



Resecuritization: Commingled Collateral

- Second- or third-level securitizations of UMBS issued by either Enterprise

Supers SM – Eligible Collateral (similar to Megs & Giants)	REMICs ^{1,2} – Eligible Collateral
<ul style="list-style-type: none"> • Can be backed by UMBS and/or other Supers (either issuance of one Enterprise or a commingling of issuances of both Enterprises) <i>and/or</i> • Existing Fannie Mae TBA-eligible MBS and/or Megs, which at Go-Live become UMBS-eligible <i>and/or</i> • Legacy Freddie Mac TBA-eligible PCs and/or Giant PCs that have been exchanged into UMBS and/or Supers 	<ul style="list-style-type: none"> • Can be backed by new or exchanged UMBS and/or Supers (either issuances of one Enterprise or a commingling of issuances of both Enterprises) <i>and/or</i> • Existing Fannie Mae TBA-eligible MBS and/or Megs, which at Go-Live become UMBS-eligible <i>and/or</i> • Legacy Freddie Mac TBA-eligible PCs and/or Giant PCs that have been exchanged into UMBS and/or Supers <i>and/or</i> • REMIC or Re-REMIC classes issued by either Enterprise that were at issuance 100% backed by any combination of the above

¹ Non-UMBS-eligible collateral and all 45-day PCs are not eligible collateral for Supers

Non-UMBS-eligible collateral is eligible for resecuritization (Giant/Mega/REMIC) by the **original issuer only**.

² Any existing or legacy REMIC security which at issuance was backed 100% by UMBS-eligible collateral can be collateral for new REMIC classes issued by either Enterprise



Category	Current	UMBS Future
<p>Operational Process Delivery Method¹</p> <p>Freddie Mac</p>	<ul style="list-style-type: none"> Giant collateral is delivered to one sub-account at the Fed → Account 2BD2 Receive corresponding Giant(s) back 	<ul style="list-style-type: none"> Supers Collateral will be delivered to <u>two</u> subaccounts at the Fed – this is a requirement for Fed netting and clearing → Freddie collateral to account 2BD6 → Fannie collateral to account 2BX1 Get corresponding Supers back from account 7025; REMICs will be issued from account 7026 Same settlement timing and limitations
<p>Fannie Mae</p>	<ul style="list-style-type: none"> Mega collateral is delivered to one sub-account at the Fed → Account 2BD3 Receive corresponding Mega(s) back 	<ul style="list-style-type: none"> Supers Collateral will be delivered to <u>two</u> subaccounts at the Fed – this is a requirement for Fed netting and clearing → Fannie collateral to account 2BD3 → Freddie collateral to account 2BX1 Get corresponding Supers or REMICs back from account 7010 Same settlement timing and limitations
<p>Diversification</p>	<ul style="list-style-type: none"> Investors look at the security issuer to determine if they may be close to portfolio name limits 	<ul style="list-style-type: none"> Look at security issuer OR look through to underlying collateral mix²
<p>Guarantor</p>	<p>Fannie Mae or Freddie Mac, depending on whether you are forming a Mega or Giant</p>	<p>Security Issuer (top-level name) is the Guarantor</p>
<p>Fails/Claims</p>	<ul style="list-style-type: none"> Work with the issuer of the security (Fannie Mae or Freddie Mac), as relevant 	<ul style="list-style-type: none"> For any problem with a Supers or commingled REMIC you can contact either of the GSEs Freddie & Fannie have an agreed-upon process – approved by FHFA – in place to handle this situation

¹ Pricing for commingled securitizations must be discussed separately with the security issuer

² Awaiting 817(h)-related guidance from IRS; this may impact diversification measurement and monitoring for certain investors





Questions for Discussion

- What detail will the vendors have to enable identification of the issuer as well as the underlying collateral?
- Is it clear who the Guarantor is?
- Are there any outstanding operational, policy or system-related concerns about comingled issuance?

- *Servicer Provider Discussion Participants: Bloomberg & eMBS*



Other Transition Scenarios & Questions?



Wrap-up & Closing

- Today's session will be posted to both Fannie & Freddie's Websites
- Expect a Second Single Security Conference on February 12th 2019