Single Security 2019: *Will You Be Ready?*

The Single Security Initiative Conference

Hosted by: Fannie Mae and Freddie Mac

May 14, 2018

Intercontinental Hotel-Times Square

New York City

Fannie Mae Freddie Mac

Infrastructure Update

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Fannie Mae

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Larry Gioia	• President	eMBS
Jackie Jozefek	• Business Manager	Bloomberg
Barry Pavel	• Director, North America Client Relationships and Product Dev.	The Yield Book by FTSE Russell
Courtney Van Fechtmann	• Director, Rates Client Strategy Group	Tradeweb

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Broadridge Financial Solutions

Mike Acevedo

Fannie Mae Freddie Mac

The Broadridge Solution

In 2016, Broadridge started working with various industry participants such as FNMA, FHLMC, SIFMA, eMBS, to arrive at a solution for our diverse client base

- Created a client working group to identify scope of this far reaching industry initiative
- As things progressed, addressed with the larger client community
  - Fannie Mae & Freddie Mac participated in this kick off meeting
- Timeline:
  - Q3 2018 - Development Complete
  - Q4 2018/Q1 2019 – Testing
  - Q2 2019 – Production Ready

Broadridge Changes

- Process new aligned Disclosure files
- Display new data from agency disclosures across application
- Release control on clearance for client exchanges
- Support of float compensation
- Updates to product code descriptions (relabeling)
- Load and process daily and cumulative exchanges files
- Reporting – New and updates to existing Report Suite

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aladdin®
by BlackRock®

Aanchal Arora

Fannie Mae FreddieMac

Single Security Initiative in Aladdin

Under the direction of FHFA, BlackRock market practitioners and Aladdin experts have been actively engaged with Fannie Mae, Freddie Mac and SIFMA

- This involvement has enabled us to design an Aladdin solution that incorporates our in-depth knowledge of the mortgage market evolution and expertise in mortgage analytics and trading.
- Our solution ***reflects both practitioner insight and feedback gathered from our Aladdin clients*** – a community of 80+ industry leading organizations.
- It allows an ***end-to-end TBA Life Cycle Support*** for Uniform Mortgage-Backed Security.

Aladdin's Single Security solution

Mortgage Data and Analytics

- Consumption of new single security disclosure data and data conversion
- Expanded product scope for Analytics, MBS Relative Value Package and Risk Reporting
- One set of CUSIPS-based benchmarks and pricing data from external vendors

Trading Capabilities

- New uniform single security UMBS trading ticker to be used for trading and operations workflows
- Ability to capture exchange of Legacy 45-day Freddie PCs into 55 – day PCs in the transaction workflow
- Mechanism to facilitate adoption of changes in investment guidelines or constraints

Mortgage Operations

- Allow both FNMA and FHLMC issued Uniform MBS and exchanged FRE mirror securities deliverable into Single TBA contract
- Connectivity with FICC Services for EPN and Novation Services
- Support of end-to-end post trade workflows for UMBS

Best Execution

- Account for client specific workflows
- Data Reporting for transactions, positions, security indicative data and many more
- Enhanced interfaces to support new data points, extracts and downstream workflows

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eMBS

Road to Readiness

Larry Gioia

Fannie Mae

Freddie Mac

eMBS

eMBS

Changes to support the Single Security Initiative: Overview

- Support Freddie Mirror Securities
- Support Fannie move to aligned formats, including convert-back to current formats
- Modify eMBS Database to support UMBS

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eMBS

eMBS

Freddie Mac Mirror Support Freddie formats and eMBS DB

- Exchange Mapping
- Daily and Cumulative Exchange Activity
- Float Compensation Data
- Add fields for convert-back clients: Prefix, Factor, and Balance on DNI, Prefix on Factor

eMBS

eMBS

Fannie Mae Aligned-Format Support

- Receive and Provide test files
- Modify eMBS Distribution and Validations
- Run through eMBS systems & compare
- Provide feedback to Fannie Mae on results
- Provide test data in eMBS Database format
- Convert-back Fannie Data to current and earlier formats

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eMBS

eMBS

eMBS Database Changes

- Add new Freddie UMBS Prefixes (CL, CI, CT, CN,…) and Products
- Populate new mirror securities beginning in August (CollType 'POOL")
- New Mirror exchange tables (daily activity, cumulative, float comp)
- Populate collateral (IssColl) rows for mirror securities and update daily
- Add prepay aggregations of 55-day Freddie loan-backed UMBS
- Summarize available supply of UMBS (Freddie & Fannie)
- Change Fannie TBA Agency designation from FNM to UMB
- Modify TBA->Pool association for UMBS TBAs to reflect that Fannie and Freddie 55-day pools are eligible
- SUPER Summary: new table by SUPER showing % Fannie and % Freddie by current balance. Also display on eMBS screens

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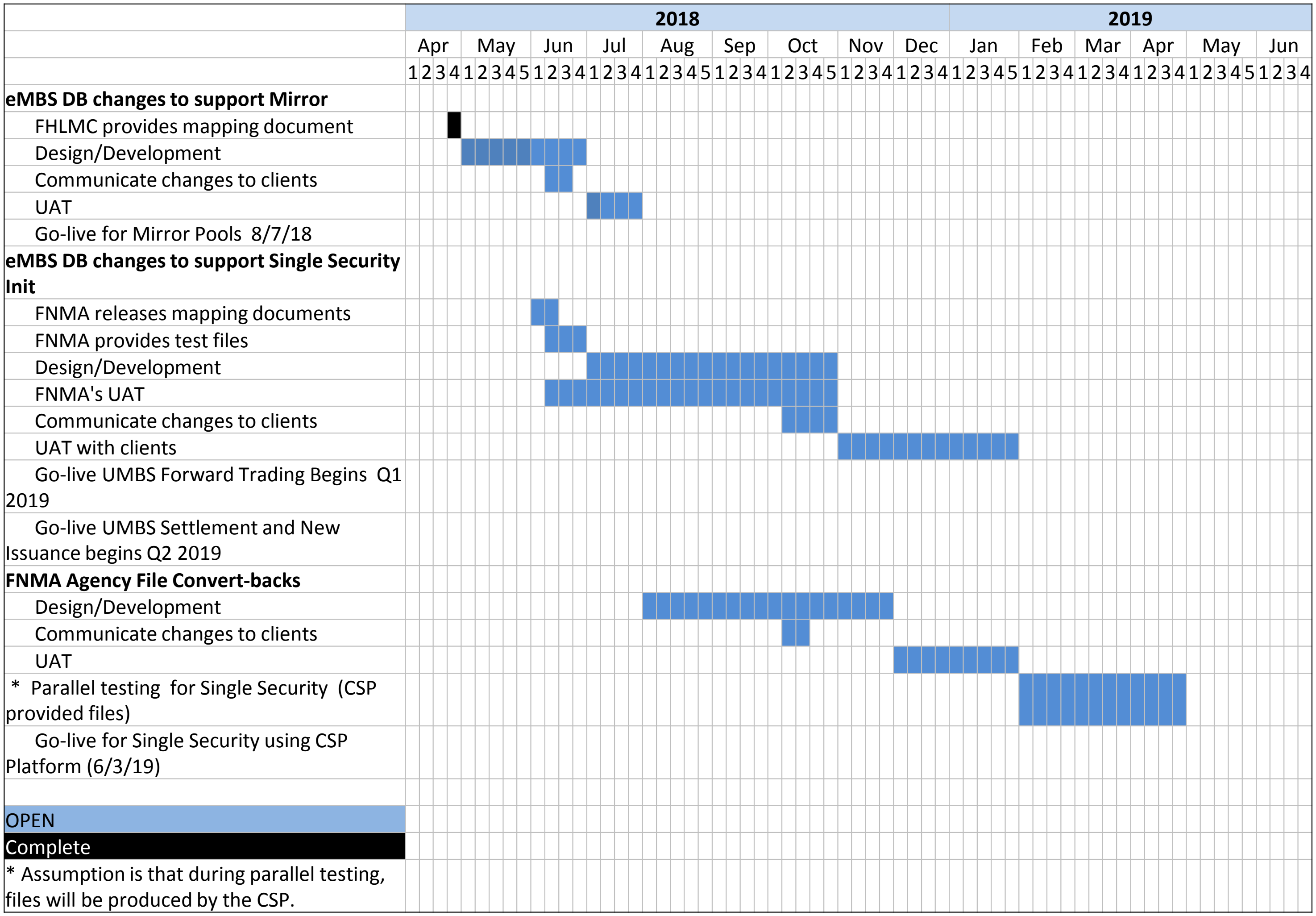
Single Security Initiative Implementation Schedule



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Bloomberg Preparation for UMBS

Jackie Jozefek

Fannie Mae FreddieMac

Bloomberg Mortgage Cashflow Structured Products

The Uniform MBS initiative will impact Bloomberg syntax, screen applications, and other ancillary businesses throughout Bloomberg including:

- Pools
- Generics
- TBAs and Electronic Trading
- Analytics
- Excel API and Enterprise Products
- Indices

Bloomberg Mortgage Cashflow Structured Products

Existing 45 Day Freddie Mac pool example:

45 day pool "FG Q35354". What will change when its mirror pool is created?

FG Q35354 Mtge | Export | Page 1/2 Security Description

FGLMC 3.5 M 4.140(326)30 CUSIP 3132QR5Q9 | Pool Level | 95) Buy | 96) Sell

1) Summary | 2) Comments

Pool	FG Q35354	16) Seasoning	FGLMC 3.5 M	As Of	02/2018
Type	(Q3) Conventional Conv 30 years	17) Vintage	FGLMC 3.5 2015	Issue Date	08/01/2015
Traits	30/360			Maturity Date	08/01/2045
11) Seller	Firstbank				

12) Pool Information

Coupon	3.500	WAC	4.140	Orig WAC	4.132
		WARM	326	Orig WAM	360
		WALA	30		

Balance	
Factor	0.70017406
Orig Amt	25,792,039
Curr Amt	18,058,917

13) Collateral Information

WAOLTV	86	AOLS	284,657	Orig TPO	15.81
WAOLTV-HPI	78	WAOLS	303,220	Curr TPO	20.40
WAOCLTV	86	MAXLS	417,000		
WAOCS	757	WAOLT	360		
		WAODTI*	35		

Prepay	CPR	PSA
1 Month	0.2	3
3 Month	4.8	83
6 Month	5.2	94
1 Year	6.8	139
Life	11.7	375

14) # Loans 67 Delay 44 (14)

TRACE Eligible

18) States	%UPB
Alabama	24.7
Tennessee	15.1
Georgia	7.8

15) Paydown Information *Value calculated by Bloomberg

Prepay History	Feb18	Jan	Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar17
1 Month CPR	0.2	13.5	0.2	15.4	0.2	0.2	0.2	11.2	12.5	23.7	0.2	0.1
3 Month CPR	4.8	9.9	5.5	5.5	0.2	4.0	8.1	16.0	12.6	8.7	11.8	11.8
6 Month CPR	5.2	5.2	4.8	6.8	8.4	8.4	8.4	13.9	12.2	16.0	24.0	24.0
12 Month CPR	6.8	9.7	8.6	11.5	16.6	16.6	19.5	22.5	21.8	20.9	19.1	20.5
Life CPR	11.7	12.1	12.0	12.4	12.3	12.8	13.2	13.8	13.9	13.9	13.4	14.1

Source: Bloomberg Finance L.P.

Fannie Mae FreddieMac

Bloomberg Mortgage Cashflow Structured Products

Legacy and Mirror pool changes:

Attribute	Legacy Pool (45 day)	Mirror (55 day)	Note:
Pool Number	FGQ35354	FNZJ1234	- New 55 day pool prefix – FN(TBA) / FR(NonTBA) - Mirror Pool #s to be assigned - Legacy pool link on Mirror DES page
CUSIP	3132QR5Q9	123456789	New CUSIP to be assigned
Pool Type	Q3	CL	Adopt Fannie TBA Pool Types. New codes for Non TBA
Issue Date	8/1/2015	8/1/2018	New Issue Date to be assigned
Delay Days	45	55	Delay to match Fannie Mae
Servicer	Firstbank	SCR Mirror	"SCR Mirror" will display for all Mirrors
Generic	FGLMC	FNCL	TBA eligible Mirror pools will migrate to the FNCL generics as exchanges occur

Bloomberg Mortgage Cashflow Structured Products

Fictitious Sample Mirror Pool:

Fictional 55 day pool

FN ZJ1234 Mtge | 98) Export | Page 1/3 Security Description

FNCL 3.5 N | 4.140(326)30 | CUSIP 123456789 | Pool Level | 95) Buy | 96) Sell

1) Summary | 2) Exchanges | 3) Comments

Pool	FN ZJ1234 Mtge	16) Seasoning	FNCL 3.5 N	As Of	02/2018
Type	(CL) Conventional Conv 30 years	17) Vintage	FNCL 3.5 2015	Issue Date	08/01/2018
Traits	30/360	18) UMBS Orig	FG Q35354	Maturity Date	08/01/2045
11) Seller	SCR Mirror				

12) Pool Information

Coupon	3.500	WAC	4.140	Orig WAC	4.132	Factor	0.70017406
		WARM	326	Orig WAM	360	Orig Amt	25,792,039
		WALA	30			Curr Amt	18,058,917

13) Collateral Information

						Prepay	CPR	PSA
WAOLTV	86	AOLS	284,657	Orig TPO	15.81	1 Month	0.2	3
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WAOCLTV	86	MAXLS	417,000			6 Month	5.2	94
WAOCS	757	WAOLT	360			1 Year	6.8	139

14) # Loans 67 | Delay 54 (24)

TRACE Eligible

18) States	%UPB
Alabama	24.7
Tennessee	15.1
Georgia	7.8

15) Paydown Information (PDI PERF)

* Value calculated by Bloomberg

Prepay History	Feb18	Jan	Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar17
1 Month CPR	0.2	13.5	0.2	15.4	0.2	0.2	0.2	11.2	12.5	23.7	0.2	0.1
3 Month CPR	4.8	9.9	5.5	5.5	0.2	4.0	8.1	16.0	12.6	8.7	11.8	11.8
6 Month CPR	5.2	5.2	4.8	6.8	8.4	8.4	8.4	13.9	12.2	16.0	24.0	24.0
12 Month CPR	6.8	9.7	8.6	11.5	16.6	16.6	19.5	22.5	21.8	20.9	19.1	20.5
1 Month PSA	3	232	4	285	3	3	5	243	284	563	5	4

Source: Bloomberg Finance L.P.

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Bloomberg Mortgage Cashflow Structured Products

- For any additional questions regarding Single Security details on Bloomberg please contact:

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The Yield Book
by FTSE Russell

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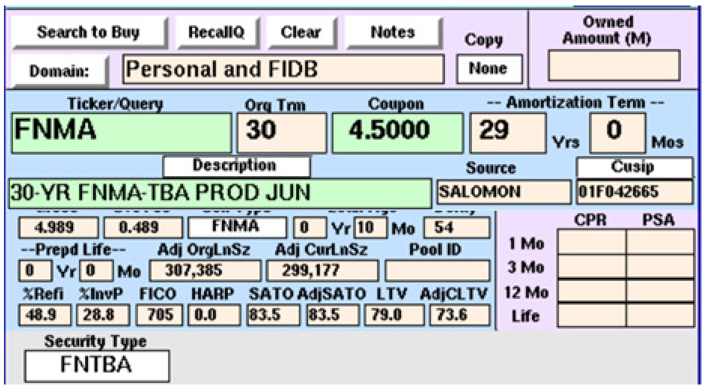
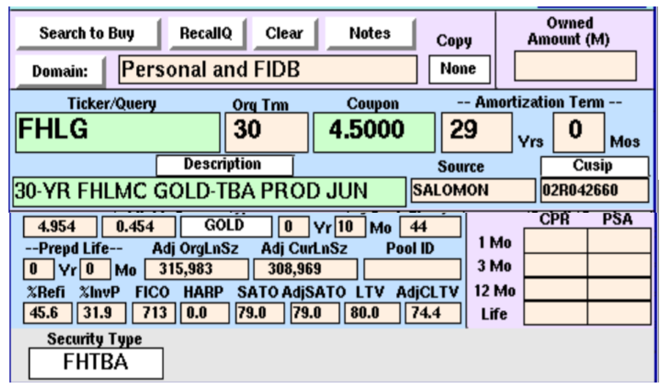
Current TBA View

Fannie Mae June TBA



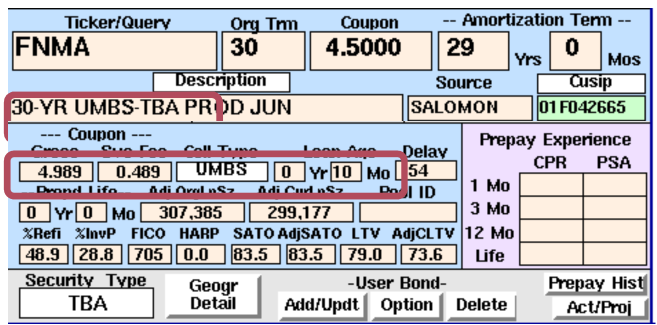
Freddie Mac June TBA

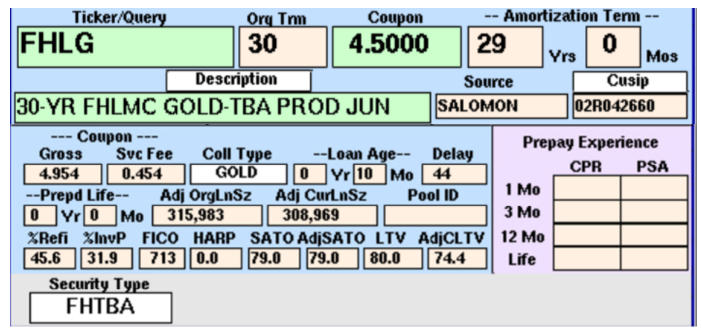


Source: FTSE Russell. For illustrative purposes only. – Disclaimer on slide 38

New UMBS TBA View

- UMBS will retain Fannie Mae Ticker and CUSIP
- Deliverable basket will be a mix of Fannie and Freddie
- Freddie TBA will be available as long as trading continues





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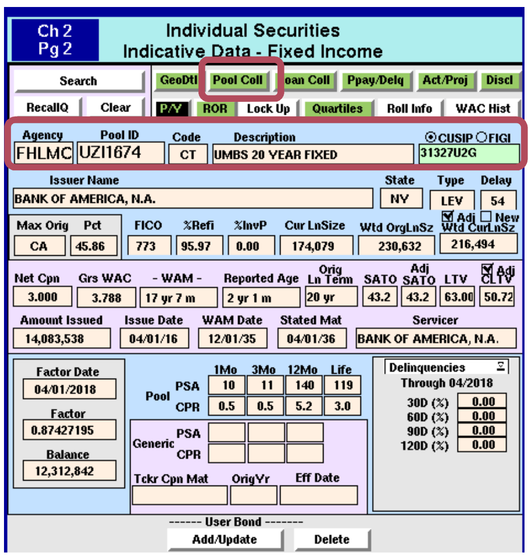
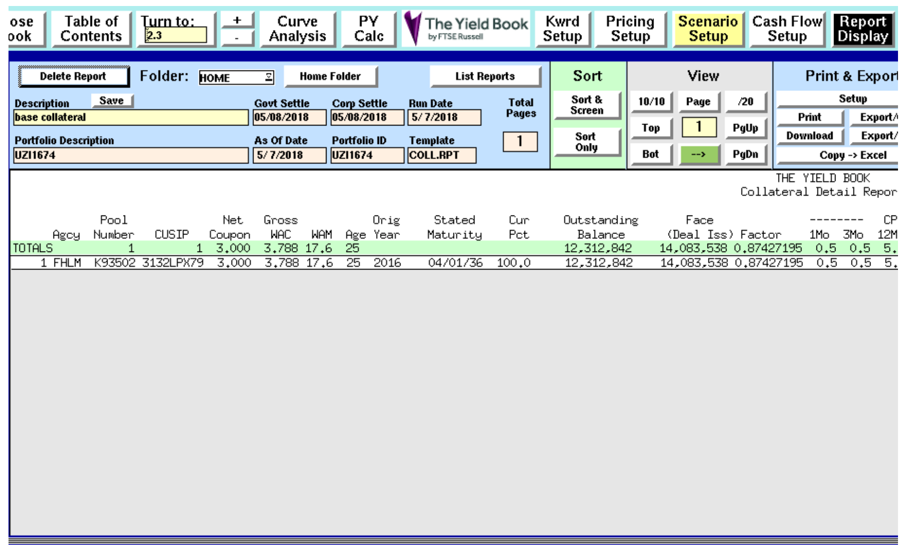
Freddie Mirror Securities

- Freddie Pools will be assigned pool IDs beginning with Q-Z (Fannie A-I,M)
- 55 Day TBA eligible Mirror pools will have Fannie Prefixes (CT = 20 Year)
- Mirror pools will be linked to each other

Freddie Released sample 55-day Mirror Pool





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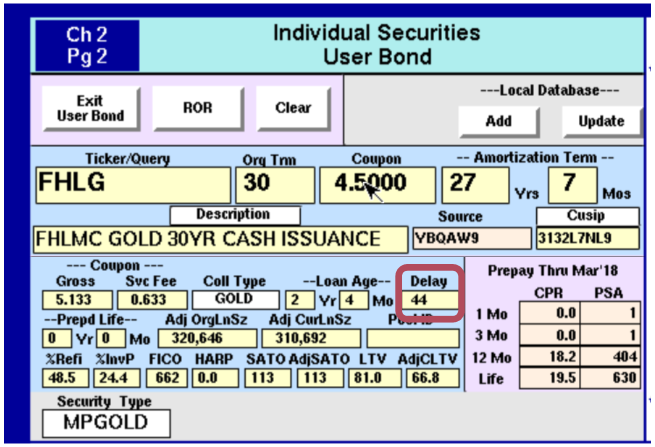
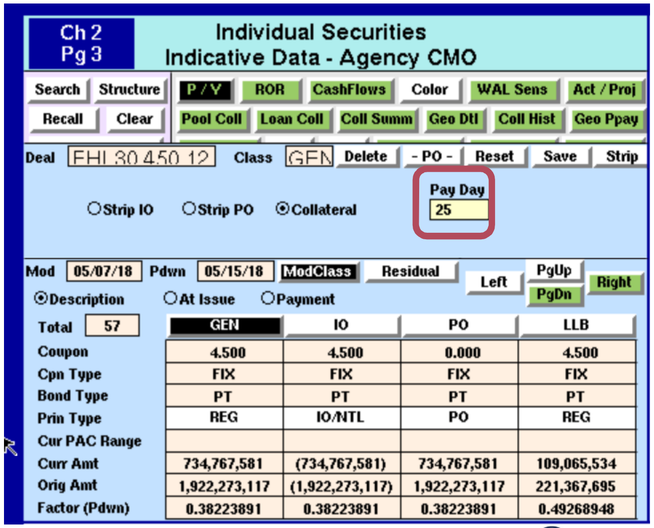
Freddie 45 to 55 Exchange Values

- Modify pay date or delay for any bond
- Use OAS constant to calculate fair value
- Available on single bond or universe of bonds

Pools



CMO Cohorts



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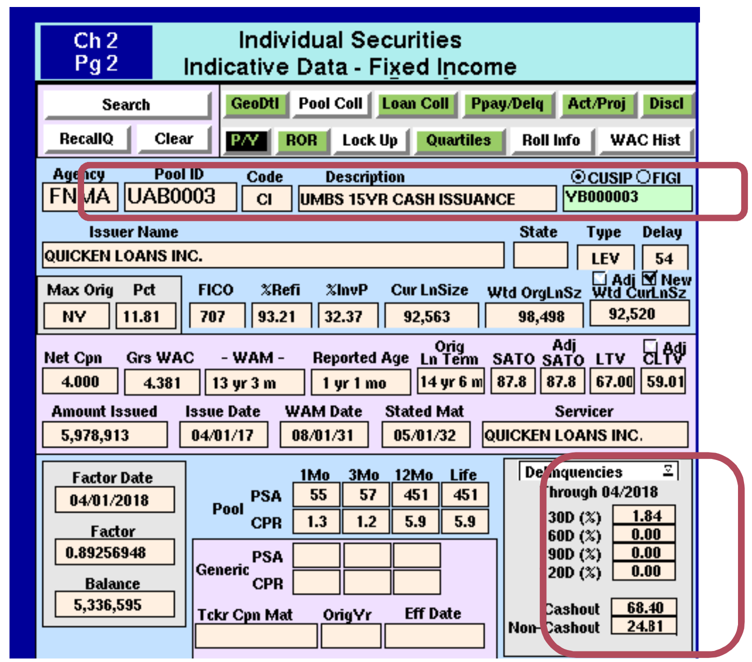
New Fannie Mae Disclosures

- Sample Fannie pool post go live
- Loaded Freddie Pool and disclosures and modified to Fannie
- Used for model testing as well as commingling



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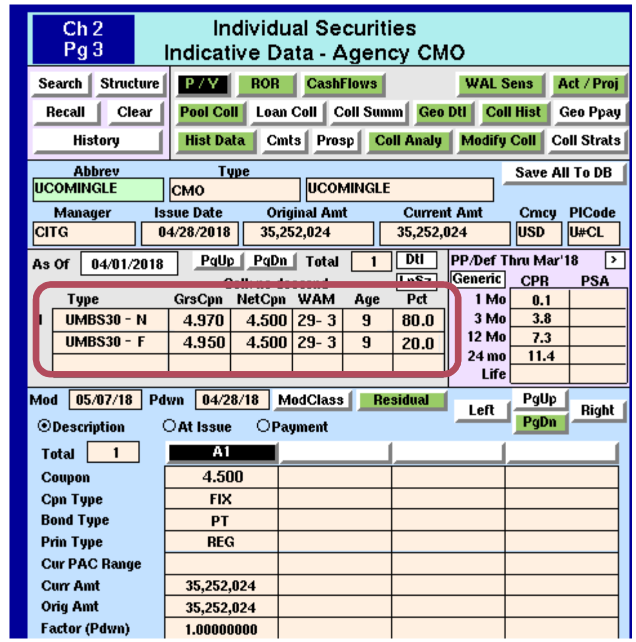
Co-Mingling

- Commingled Fannie and Freddie Remic
- Commingled Fannie and Freddie in Super
- Commingled Fannie and Freddie Super in Remic
- Other Combinations



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Feedback & Support

- Testing ongoing as test files become available
- Living document going up on our website in June
- Table outside with Citi to answer questions
- Help Desk and Account Managers available through transition

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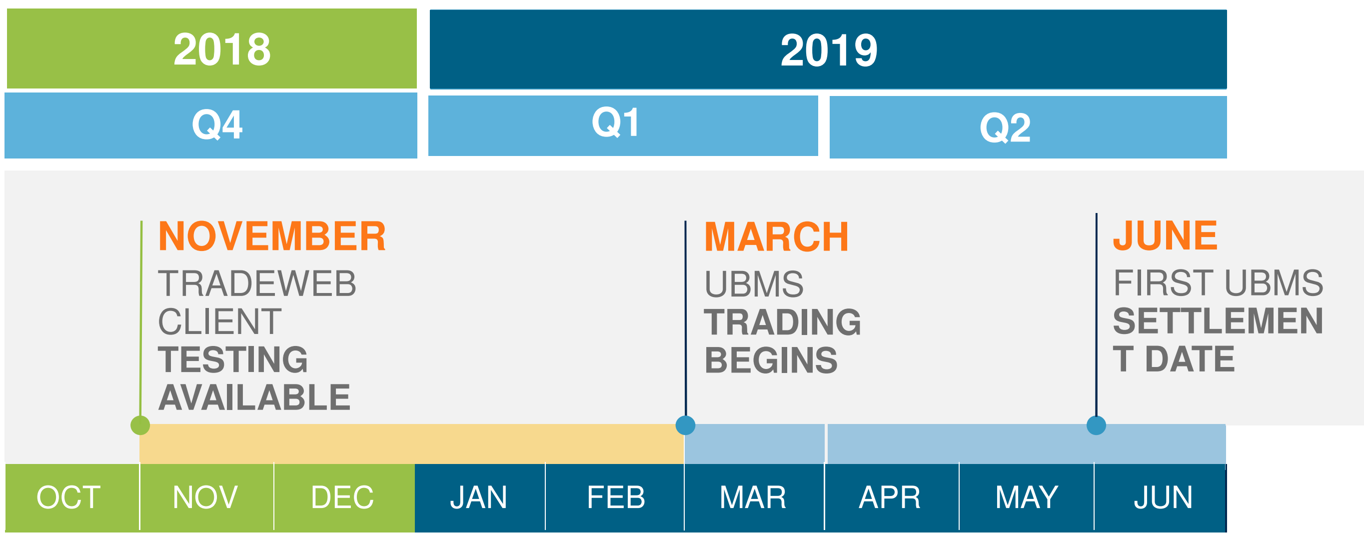
TRADEWEB Implementation

Courtney Van Fechtmann

Fannie Mae FreddieMac

TRADEWEB TIMELINE - 3 KEY DATES:

1. **TESTING – November 2018**
2. **TRADING – March 2019**
3. **SETTLEMENT – June 2019**



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90 DAYS PRIOR TO FIRST SETTLEMENT DATE (JUNE 2019)

FNMA, UMBS and PCGLD will show on Tradeweb:

2.5	FNMA / UMBS	PCGLD	GNMAII
Apr	92 – 22 / 25	92 – 17+ / 22+	93 – 26 / 30
May	92 – 18+ / 21 +	92 – 14 / 19+	93 – 23+ / 27+
Jun	92 – 18 / 19		93 – 24 / 26
Apr/May	032 / 042	027 / 044	031 / 032
May/Jun	03 / 043		025 / 026

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Source: Tradeweb. For illustrative purposes only. – Disclaimer on slide 38

60 DAYS PRIOR TO FIRST SETTLEMENT DATE (JUNE 2019)

FNMA, UMBS and PCGLD will show on Tradeweb, with PCGLD transitioning off the main screen:

2.5	FNMA / UMBS	PCGLD	GNMAII
May	92 – 22 / 25	92 – 17+ / 22+	93 – 26 / 30
June	92 – 18+ / 21 +		93 – 23+ / 27+
July	92 – 18 / 19		93 – 24 / 26
May/Jun	032 / 042		031 / 032
Jun/July	03 / 043		025 / 026

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30 DAYS PRIOR TO FIRST SETTLEMENT DATE (JUNE 2019).

FNMA and PCGLD disappear, just UMBS will show on Tradeweb:

2.5	UMBS	GNMAII
Jun	92 – 22 / 25	93 – 26 / 30
Jul	92 – 18+ / 21 +	93 – 23+ / 27+
Aug	92 – 18 / 19	93 – 24 / 26
Jun/Jul	032 / 042	031 / 032
Jul/Aug	03 / 043	025 / 026

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Tradeweb Mortgages 30 Year TBA MBS

2.5-4.0 | 3.0-4.5 | 3.5-5.0 | 4.0-5.5 | 4.5-6.0 | 5.0-6.5

	2.5 UMBS	GNMA	GN2 vs UMBS	3.5 UMBS	GNMA	GN2 vs UMBS
Jun	99-20+/23+	99-20+/23+	0-19 / 24	104-20+/23+	104-20+/23+	0-29+ / 30
Jul	99-15 /18	99-15 /18	0-13+ / 19+	104-15 /18	104-15 /18	0-30 / 31
Aug	99-07+/10+	99-07+/10+	0-10+ / 16+	104-07+/10+	104-07+/10+	0-29+ / 30+
Jun/Jul	053/06	053/06	08+ / 10+	053/06	053/06	047 / 05
Jul/Aug	072/073	072/073	085 / 105	072/073	072/073	045 / 046

	3.0 UMBS	GNMA	GN2 vs UMBS	4.0 UMBS	GNMA	GN2 vs UMBS
Jun	99-20+/23+	99-20+/23+	0-29+ / 30	104-20+/23+	104-20+/23+	0-19 / 24
Jul	99-15 /18	99-15 /18	0-30 / 31	104-15 /18	104-15 /18	0-13+ / 19+
Aug	99-07+/10+	99-07+/10+	0-29+ / 30+	104-07+/10+	104-07+/10+	0-10+ / 16+
Jun/Jul	053/06	053/06	047 / 05	053/06	053/06	08+ / 10+
Jul/Aug	072/073	072/073	045 / 046	072/073	072/073	085 / 105

2 yr	99-282/28+	-0-01+	0.811-807
3 yr	99-20+/23+	-0-02	0.965-963
5 yr	100-156/16	-0-01+	1.272-270
7 yr	100-15+/16	+0-002	1.551-549
10 yr	98-28 /28+	+0-01+	1.748-746
30 yr	98-12 /12+	+0-13	2.578-577

Roll Analysis UM Jun-Jul Financing @ 0.81

Cpn	CPR	Drop	B/E Drp	B/E Rt	B/E CPR
2.5	0.810	0-053	0-046	0.5	47.3
3.0	0.810	0-070	0-05	0.1	-18.8
3.5	0.810	0-051	0-05	0.7	14.5

Main | 30 | 15 | Rolls | FNMA | UMBS | PCGLD | GN1 | GN2 | Sw30 | Sw15 | Basis | Fut | BFLY | Pools | Queue

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