Fiserv Division Update

Dave Wegman General Manager

September 19, 2016





In This Session

- Premier 9.0 & Premier 10.0
- Engage
- ESF
- Notifi: Events and Alerts preview
- Retail, Business & Mobile Banking
- Sentry Solutions





Premier Update

Kevin Muff
Craig Warnock





Premier Update Overview

- Release Schedule
- Completed Projects
 - Premier 8.4 Release Update 3
 - Premier 8.4 Release Update 4
- Active Projects
 - Regulatory Updates
 - Premier 8.4 Release Update 5 (Tax Reporting)
 - Premier 9.0
- Premier 10.0



Annual Release (Event) Schedule



Major Releases

- Every other year (July)
- Primary Release # Increments (i.e. 8.4 to 9.0 to 10.0)
- Database changes
- · Deposits, Loans, CIF, Regulatory...

Primary focus of Release Events

- Regulatory / Compliance changes
- Client Commitments
- Defect Bundling
- Minor Enhancements

End of Year (November)







Premier Release Schedule

Dramiar Dalagas		20	16		114 2047	112 2047	2049	2040
Premier Releases	Q1	Q2	Q3	Q4	H1 2017	H2 2017	2018	2019
Premier 8.4 RU 3		R						
Premier 8.4 RU 4			RA					
Premier 8.4 RU 5				R5				
Premier 8.4 RU 6 , 7, 8 & 9 (March, July ,Nov)				4	R6	R7 R8	R9	
Premier 9.0 (July '17)						9.0		
Premier 9.1 (9.0 RU 1 (Nov '17))						R1)		
Premier 9.2 - 9.7 (March, July, Nov)							R2 R3 R4	R5 R6 R7
Premier 10.0-(March-19)- (July '19	9)							10.0





Reminder: Product Release Schedule

- Published 3 times annually
 - April "Forum"
 - August "Budgeting"
 - November "State of the Union"
- Projects
 - Active
 - Scheduled
 - Strategic
 - Completed
- Client Access to C3







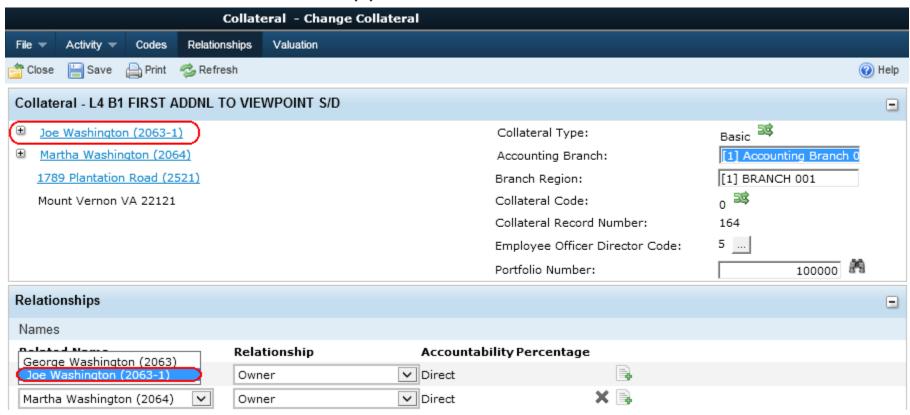


Completed Projects



Premier 8.4 Release Update 3

CAS Alternate Name Support

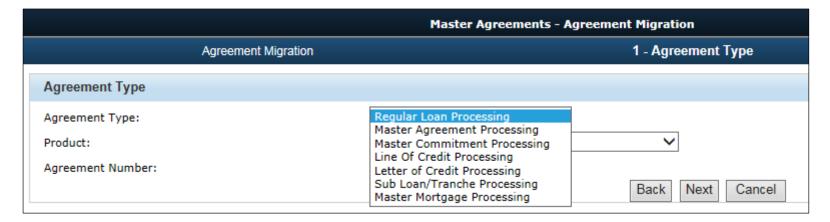






Reassign Processing Type on Master Agreement Loans

	Master Agreements - Agreement Migration
Agreement Migration	Agreement Type
Search	
Name:	Last First
☐ Exact Partial Name Only	
Tax Identification:	SSN, EIN, Last 4
Account Number:	4498701
	Submit Advanced Search







- Report H in the payment history profile for foreclosures
- Scheduled monthly payment of \$0.00 for charge offs
- Current Balance include escrow and insurance

Credit Bureau Reporting Enhancements

Reporting Completed Foreclosures in Payment History Profile and to Credit Bureau

Change: In order to comply with Credit Bureau Reporting guidelines in the 2015 Metro II Resource Guide, the Loan Update (LAS3101) program now reports an H in the loan Payment History Profile grid, indicating Foreclosure Completed, when the credit bureau Reporting Code is changed to a 94.

Hint: The LAS3101 program continues to report an H in subsequent months in the Payment History Profile grid as long as the credit bureau Reporting Code remains a 94.

Previous Functionality: When you changed the credit bureau Reporting Code to 94 the LAS3101 program continued to report values in the Payment History Profile grid based on other criteria, such as, a Charge Off Balance greater than zero would report an L, indicating Charge Off instead of an H, indicating Foreclosure Completed.

Scheduled Monthly Payment Amount Reported as Zero for Fully Charged Off Loans

Change: In order to comply with the 2015 Metro II Resource Guide the Universal Credit Reporting (Metro 2 format) (CRM7210) program now reports \$0.00 for the Scheduled Monthly Payment Amount (Field 15 of the Base Segment) when you fully charge off a loan.

Previous Functionality: The CRM7210 program reported the regular payment amount from the payment schedule for the Scheduled Monthly Payment Amount (Field 15 of the Base Segment) when you fully charged off a loan.

Hint: Write downs and partially charged off loans are not affected, the system continues to report the regular payment amount from the payment schedule.





Deposits/Core

- New item stops are checked against posted transactions
- ACH Company renamed to ACH Company ID on stop pay screens
- Optional day delay sweep processing
- Analysis Charges Now Included During Sweep Process
- Improved chronological posting functionality in TPM, DDA and EIM to include credit processing







Recent Changes/Enhancements

- Focus on Access Code Authentication
 - Up to 19 characters (numeric and/or upper and lower case alpha characters)
- Pressure to have more robust password policies
 - Up to 17 characters (numeric, upper and lower case alpha and/or special characters)
- Adding a 'Warning' to the Access Code Password Specification if the Minimum Password Length is less than '8'

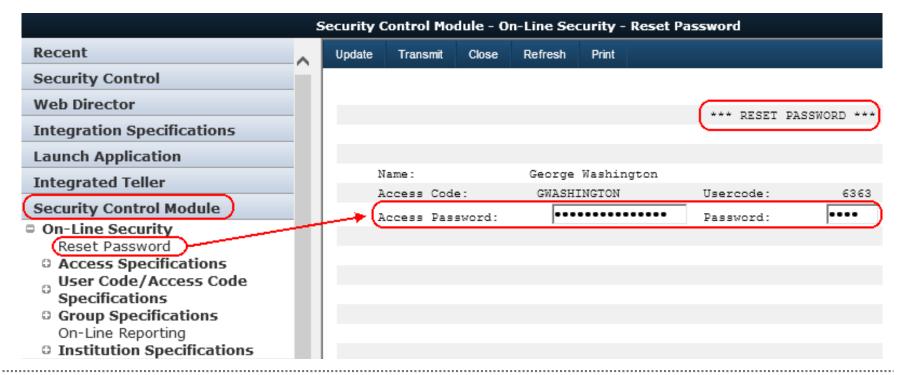






Recent Changes/Enhancements

- New Reset Password Node in Navigator
 - Quickly reset a user's Access Password or Usercode Password using the new Reset Password node in Navigator under the Security Control Module group.







Recent Changes/Enhancements

 Ability to allow for certain users ONLY the ability to reset passwords, vs. allowing them to also Add/Change/Delete SCM User Profiles

			***	RESET	PASSWORD	***
Name:	PATTY BANKER					
Access Code:	PBANKER	Usercode:				951
Access Password	***************************************	Password:				****





Recent Changes/Enhancements

- Adding a specification into the SCM Institution Specification that enforces Access Code Authentication Only
 - When enabled, only affects applications that authenticate through SCM1450/SCM0100 (e.g. Navigator, BPM, Integrated Teller, etc.)
 - 3rd Party systems would still allow for User Code authentication, since they do not authenticate through the SCM1450/SCM0100 channel

Update	Transmit	Close	Refresh	Print
				*** INSTITUTION SPECIFICATIONS ***
			Inst	citution Report Number:
			Time	Zone Indicator:
			Requ	uire Accesscode Authentication:





Security Control Module - Reminder

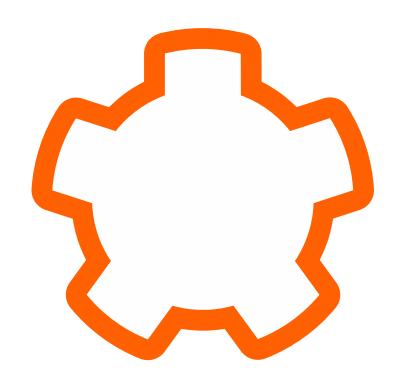
Recent Changes/Enhancements

- New Security Extract (SCM7200)
 - Released & available with Premier 8.4 Update 1 Release
 - August 2015
 - Executed on-demand
 - Creates a comma-delimited file of security data, for easy import into Excel
 - Ability to combine User + Group Entitlements

4	А	В	С	D	AD	DW	DX	DY	DZ	EA
1	REC TYPE ▼	INST ▼	NAME ~	USR CD ▼	ACCESSCODE 🔻	LAS1 F1 🔻	LAS1 F2 ▼	LAS1 F3 ▼	LAS1 F4 ▼	LAS1 F5 ▼
2	1	0	Mickey Mouse	1234	mmouse	5	1			1
3	2	0	Teller Group	56		2	3	1		2







Premier 8.4 Release Update 4

Fannie Mae Project Overview

FannieMae

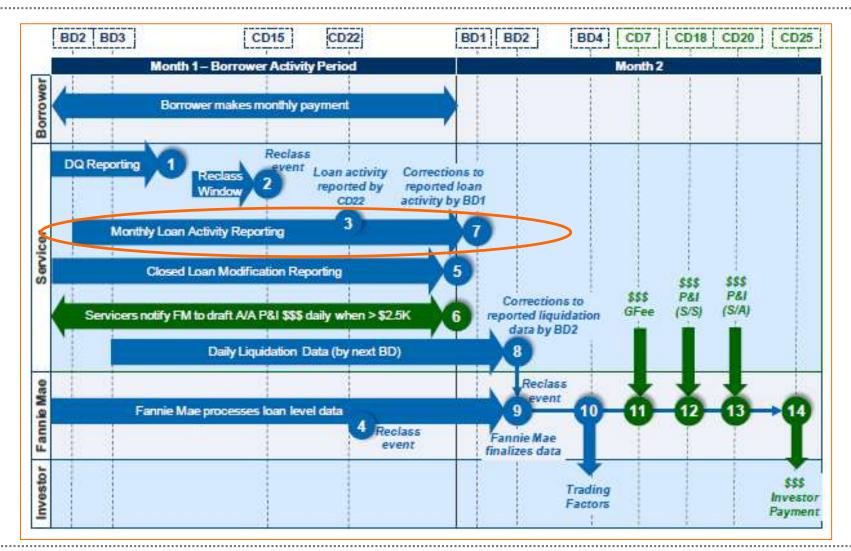
Key Servicer Milestones and Timeline

	Sub Phase	Activity	Definition of Complete
		Attend kick off	Servicer/Vendor has attended Fannie Mae - scheduled Kick-Off Meeting, reviewed lender letter
		meeting (Servicer	201406, reviewed Fannie Mae-Servicer Requirements, identified primary investor reporting
	Engagement	Forum)	leads/project team.
		Acknowledge regular	Servicer/Vendor has accepted meeting invite sent by Fannie Mae contact, understands the reporting
		meeting (Forum)/	process through the project, and has provided contact information to Fannie Mae for project team
		report cadence	members and primary investor reporting lead.
-		Create project plan	Servicer/Vendor has created an internal plan of how to comply with CIE servicer requirements and
Phase			shared key milestones and dependencies with Fannie Mae.
ha		Develop internal	Servicer/Vendor has identified needs for internal communication throughout the project and go-live.
•	Analysis	communication plan	
	Allalysis	Analyze technology	Servicer/Vendor has assessed the technology impact of the project.
	(Due by Oct 2015)	impact	
	(Due by Oct 2015)	Analyze business	Servicer/Vendor has assessed the business process impact of the Call-In Elimination (CIE).
		process impact	
		Define Requirements	Servicer/Vendor has used the CIE Servicer requirements document to create specific requirements for
			CIE.
	Development	Develop technology	Based on the technology impact analysis, servicer/vendor has developed the updates in technology
	Development	changes	required for CIE. If determined N/A, then this activity should be marked complete.
	(Due by Jan 2016)	Create servicer test	Servicer/Vendor has created an internal test plan to ensure updates to technology will be successful
e 2	(Due by ball 2010)	plan	and any updated integration with vendors will be successful.
Phase	Servicer & Vendor	Perform functional	Servicer/Vendor has completed functional testing of updates to technology and provided Fannie Mae
듄	Testing	testing	written confirmation of completion.
	resung	Complete Vendor/	Servicer/Vendor has completed integration testing of updates to integration with vendor and provided
	(Due by May 2016)	Servicer integration	Fannie Mae confirmation of completion.
	, , , ,	testing	
	Fannie Mae Customer	Perform Fannie Mae	Servicer/Vendor performs integration test with Fannie Mae.
	Integration Testing	integration test	
	(June 2016-Dec 2016)		
Phase 3		Develop training	Based on the changes in process and/or technology, Servicer/Vendor has created internal training
asi	Onevetienel	materials	materials. If determined N/A, then this activity should be marked complete.
듄	Operational Readiness	Document policy and	Servicer/Vendor has updated internal policies and procedures based on process or technology
		procedure updates	changes.
	(Due by Dec 2016)	Complete Go/ No-Go	Servicer/Vendor has completed the Go-Live checklist and provided to Fannie Mae.
		decision	
Σ	Go Live	Transition Month	The month Fannie Mae's Investor Reporting due date changes become effective.
F	Feb 1, 2017	Transition World	





Fannie Mae Future Changes to Investor Reporting

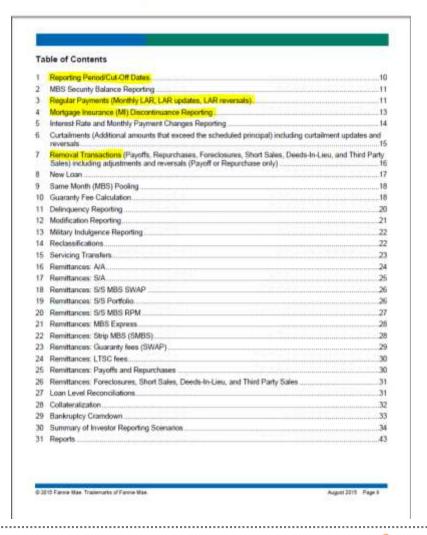






Future Changes to Investor Reporting – Detailed Scenarios

- Reporting Period/Cut-Off Dates
 - Daily (Recommended)
 - 22CD Daily to EOM
 - 22CD and EOM (Minimum)
- Regular Payments
 - Action Code 00
 - Action Date
- Mortgage Insurance
 Discontinuance Reporting
- Removal Transactions

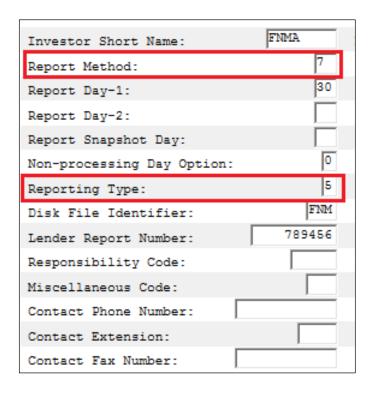






Development

- Fannie Mae LAS7210
 - New Program
 - Action Daily, 21Daily, 21EOM
- LCM
 - Fannie Mae Investor Spec Changes
 - Daily
 - 21Daily
 - 21EOM
- FHLB LAS7215 MPF Xtra
 - New Program
 - Daily
 - 21Daily
 - 21EOM







Project Status Overview

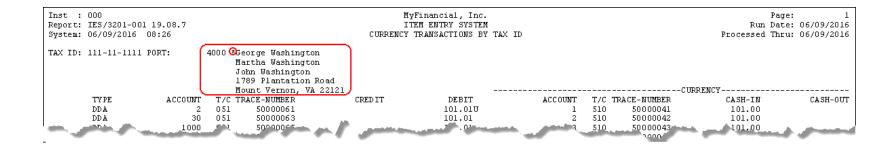
- Completed Development and Internal QC in mid May
- May 25th Active Testing began
- Active testers continuing to test
- Released in July
- Release Letter
 - Document Options
 - Daily with or without LCM
 - 21Daily with or without LCM
 - 21EOM with or without LCM
- Complete your process and implementation plan
- Feb 1, 2017 Live Date





Premier 8.4 Release Update 4 (July 2016)

- Deposits/Core
 - List all account owners' names on the Currency Transactions by Tax ID Report and indicate the tax reporting name with a (*)



- Improved TPM reporting when credits are posted chronologically
- Add a MASK= option to RAM3300





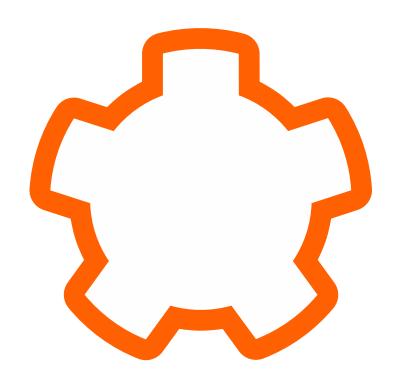
Premier 8.4 Release Update 4 (July 2016)

- Continued focus on security
 - New Authentication Fail Msg Override parameter
 - Session Inactive Minutes defaulted to 15 minutes on new groups/users
 - Enforced Expiration Date for SCM Users
 - Navigator can no longer be opened inside of a web page / frame









Active Projects







Regulatory Updates

- 1. FDIC Large-Bank Deposit Insurance Determination
- 2. VISA / MasterCard Account Updater
- 3. Q1 2017 Call Report
- 4. Military Lending Act
- 5. 2017 FNMA File Changes
- 6. HMDA Home Mortgage Disclosure Amending Reg C
- 7. Reg Z CFPB Delinquency / 2016 Mortgage Servicing Rule
- 8. Freddie Mac









Premier 8.4 Release Update 5 (Tax Reporting)

Premier 8.4 Release Update 5 (November 2016)

- Tax Reporting
- Regulatory
- Client Commitments
- Defect Bundling

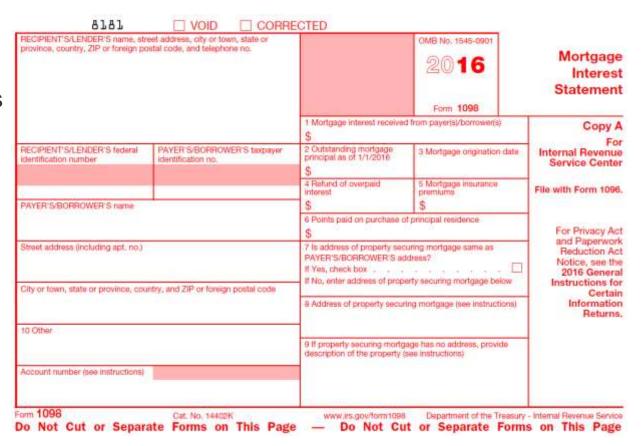






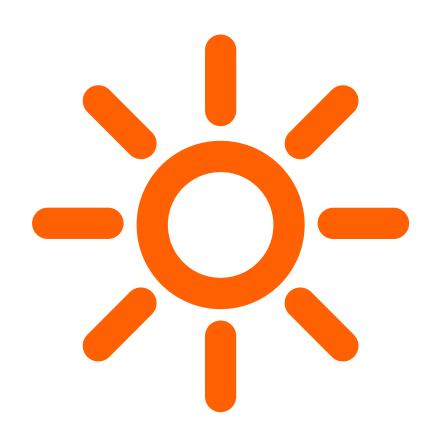
Premier 8.4 Release Update 5

- 1098 Changes
 - · LAS6202
 - Corrections
 - EOY9901Reports
- 1099-B
- 1099-INT
- 1099-OID
- 1099-R
- 1099-MISC
- 1042-S









Premier 9.0

Premier 9.0 CIF Enhancements

Address Change Management

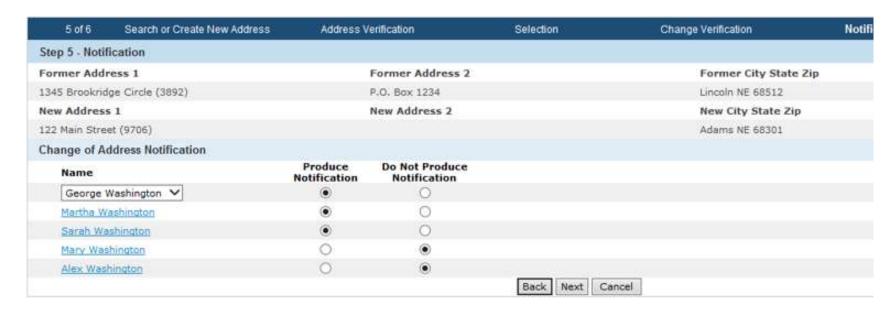
3 of 6	Search or Create New Address	Address Verification	Selection	Change Verification	Nonneation	
Step 3 - Sele	ection					
Former Add	ress 1	Former Address 2		Former City State Zip		
345 Brookrid	dge Circle (3892)	P.O. Box 1234		Lincoln NE 68512		
New Addres	s 1	New Address 2		New City State Zip		
122 Main Stre	eet (9706)			Adams NE 68301		
lame To Ad	dress Relationships - Select to Add/Cha	inge Name To Address Relation	onships			
Unselect	Name	Rela	tionship			
V	George Washington	Home	e Address			
~	Martha Washington	Home	e Address			
~	Sarah Washington	Home	e Address			
~	Mary Washington	Home	e Address			
~	Alex Washington	Sum	mer Address			
lame To Ta	x Address Relationships - Select to Cha	inge the Name To Tax Addres	s Relationships			
Unselect All	Name					
~	George Washington					
✓	Martha Washington					
✓	Sarah Washington					
~	Mary Washington					
~	Alex Washington					
ddress To	Address Relationships - Select to Change	ge Address To Address Relation	onships			
Unselect	Address	Rela	tionship			
All	P.O. Box 187 Lincoln, NE 68506	Non-	Physical Address			
	Address Relationships - Select to Chi					
CONTRACTOR			18-23-17-11-17-12-18-17-18-18-18-18-18-18-18-18-18-18-18-18-18-			
All	Account Number	Acco	ount Type		ionship	
✓	200075 - Health Checking	Dem	and Deposit	Mailin Inquir		
✓ 0	8 200000 - Personal Advantage	Dem	and Deposit	Mailin Inquir		
√ 9	200050 - Classic Checking	Dem	and Deposit	Mailin	g	
- 120	III. ON CONTROL OF A CONTROL OF		Local State of the Control of the Co	Inquir Mailin		
✓ 9	300050 - Regular Savings	Savi	ngs	Inquir Mailin		
✓	300180 - 18 Month Variable IRA	Savi	ngs	Inquir	y	
✓ 9	300290 - 18 Month Fixed IRA	Dem	and Deposit	Mailin Inquir		
√	400080 - 12 MonthPersonal Certificate	Cert	ificate	Mailin	g	
₹ 0			ificate	Inquir Mailin		
				Inquir Mailin		
✓ 9	500101 - Consumer Auto	Loan	É	Inquir	y	
	500102 - Home Equity - Line of Credit	Loan		Mailin	0	





Premier 9.0 CIF Enhancements

- Assign primary address for a customer
- Automatically produce Change of Address Notification

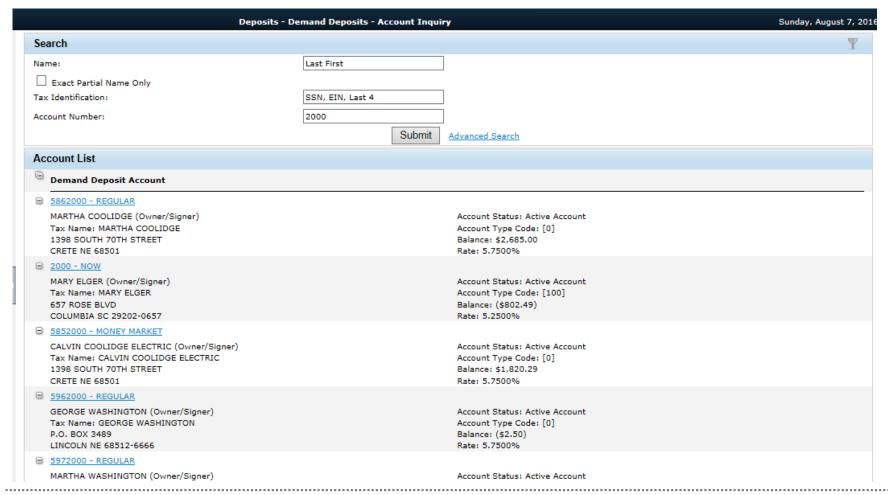






Premier 9.0 General Enhancements

Account search using last 4 digits of account number







- Drop down flex supported on other applications
 - Portfolios
 - Names
 - Deposits
 - Lines/Line Addenda
 - Notes/Note Addenda





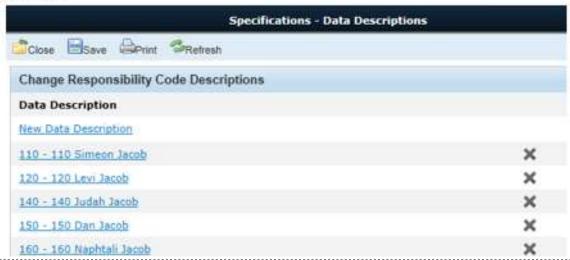




Search capabilities for data descriptions



Returns:







Quick search for debit cards and safe deposit boxes







- General efficiencies
 - Specify e-mail address(es) for eStatement delivery
 - Add IP addresses to security access reports
 - Optionally sort log reports by Access Code
 - Audit the initial source of file maintenance (e.g. BPM)
 - No longer print IP Address on inquiry print-outs
 - Improved item stop address management





Premier 9.0 Deposit Enhancements

Track occurrence 1, 2 and 3 over a running 12-month period

Reg D History Profile					≥ =
Number of Reg D Iter	ms				
	Items	Violation Date		Items	Violation Date
Current Period:	0				
Previous Period (1):	13	Apr 25, 1999	Previous Period (7):	6	Oct 25, 1998
Previous Period (2):	1		Previous Period (8):	7	Sep 25, 1998
Previous Period (3):	2		Previous Period (9):	8	Aug 25, 1998
Previous Period (4):	3		Previous Period (10):	9	Jul 25, 1998
Previous Period (5):	4		Previous Period (11):	10	Jun 25, 1998
Previous Period (6):	5		Previous Period (12):	11	May 25, 1998

- Optionally limit Reg D notice production to once a month
- Information added to system reports
- Data will be available in BA for reporting
- Optional production of violation notices





Premier 9.0 Navigator Enhancements

- Internet Explorer 11
 - Change Navigator to run natively in Internet Explorer 11 vs. requiring it to run in compatibility mode
- Penetration Testing
 - Continued focus on security including remediation of internal Navigator and SCM Pen Test findings







Multiple rate adjusters

Flat Rate and Flat Rate (Percent of Prime Code 0)

Loan Rate Index = 10%, Adjuster 1 = 2%, Adjuster 2 = 3% Resulting Rate would = 15%

- Percent of Prime and Flat Rate (Percent of Prime Code 1)
 - The percent of prime adjuster is applied to the loan rate index only, the flat rate adjuster
 is applied independent of the percent of prime adjuster

Loan Rate Index = 10%, Adjuster 1 = 15%, Adjuster 2 = 2% Resulting Rate would = 13.5% [(10 * 1.15) + 2]

- Flat Rate and Percent of Prime (Percent of Prime Code 2)
 - The percent of prime adjuster is applied to the [loan rate index + flat rate adjuster]

Loan Rate Index = 10%, Adjuster 1 = 2%, Adjuster 2 = 15% Resulting Rate would = 13.8% [(10 + 2) * 1.15]

- Percent of Prime and Percent of Prime (applied sequentially) (Percent of Prime Code 3)
 - The first percent of prime adjuster is applied to the loan rate index, then the 2nd percent of prime adjuster is applied to that result

Loan Rate Index = 10%, Adjuster 1 = 30%, Adjuster 2 = 15% Resulting Rate would = 14.95% [(10 * 1.30) * 1.15]

- Percent of Prime and Percent of Prime (applied separately) (Percent of Prime Code 4)
 - Each percent of prime adjuster is calculated based on the loan rate index value and are then applied independent of one another

Loan Rate Index = 10%, Adjuster 1 = 30%, Adjuster 2 = 15% Resulting Rate would = 14.50% [10 + (10 * .30) + (10 * .15)]

- Percent of Prime and Percent of Adjuster (adjuster 2 is applied to adjuster 1 rather than the rate index) (Percent of Prime Code 5)
 - Adjuster 2 is applied as a percent change to Adjuster 1, and then Adjuster 1 is applied to the loan rate index value as a percent of prime.

Loan Rate Index = 10%, Adjuster 1 = 15%, Adjuster 2 = -25% Resulting Rate would = 11.125% [10*(1 + {.15*(1 - .25)})]

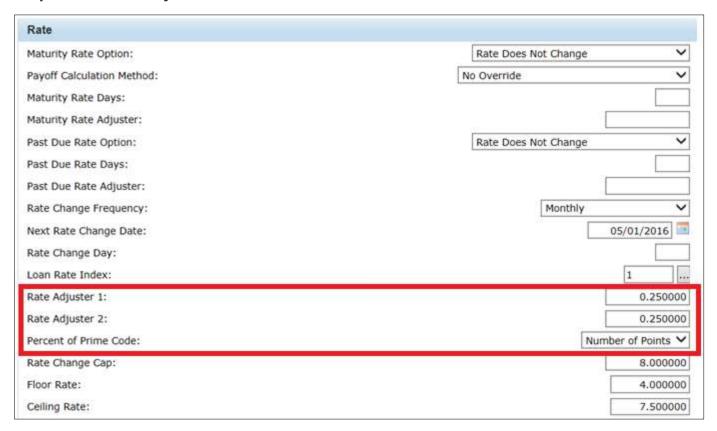
- Flat Rate and Percent of Adjuster (adjuster 2 is applied to adjuster 1 rather than the rate index) (Percent of Prime Code 6)
 - Adjuster 2 is applied as a percent change to Adjuster 1, and then Adjuster 1 is applied to the loan rate index value as a flat rate.

Loan Rate Index = 10%, Adjuster 1 = 3%, Adjuster 2 = -.25% Resulting Rate would = 12.25% [10 + {3*(1 - .25)}]





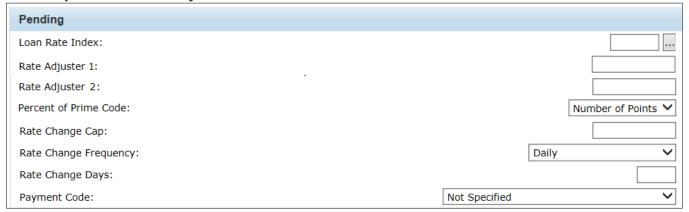
Multiple rate adjusters







Multiple rate adjusters







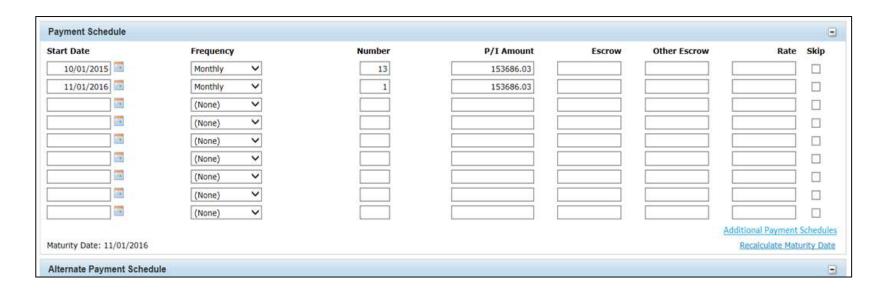
Support CYTD recognized interest and late charge income

Loans - Accoun	Monday, January 4, 20	
File Balances Activity Codes Relationships	Payment Statement History Escrow Interest/Fees	
Close 🖨 Print 🦈 Refresh 🛅 Payoff Calculator		0
Year To Date		
	2016	2015
Principal Advanced:	\$0.00	\$10,000.00
Principal Paid:	\$0.00	\$8.00
Average Balance:	\$487,929.84	\$485,075.05
Interest Earned:	\$9,017,15	\$31,353.00
Interest Paid:	\$0.00	\$1,000.00
Additional Interest Paid:	\$0.00	\$0.00
Recognized Interest Income:	\$0.00	\$0.00
Finance Charges Earned:	\$0.00	\$0.00
Reportable Points.	\$2,092.92	\$8,371.68
Late Charges Earned:	\$0.00	\$0.00
Late Charges Paid:	\$0.00	\$0.00
Recognized Late Charges Income:	\$0.00	\$0.00
Extension Fees Earned:	\$0.00	\$0.00





Support More than 9 user defined lines for outstanding payments







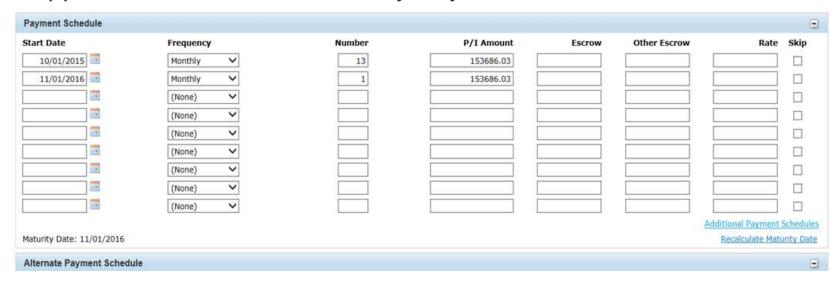
- Support More than 99 completed and outstanding payment schedules
- No longer encounter "Payment Schedule Almost Filled" exception

File Balances Activity Codes Relati	onships Payment Statement •	History Escrow Inter	rest/Fees		
Close Print Sefresh Payoff Calculator					
Payment Schedule					
Start Date		Frequency	Number	Total Amount	P/I Amount
Nov 01, 2011	Paid	Monthly	2	\$34,882.18	\$34,882.18
Jan 01, 2012	Paid	Monthly	1	\$111,027.14	\$111,027.14
Feb 01, 2012	Paid	Monthly	1	\$110,903.29	\$110,903.29
Mar 01, 2012	Paid	Monthly	1	\$110,927.01	\$110,927.01
Apr 01, 2012	Paid	Monthly	1	\$110,914.97	\$110,914.97
May 01, 2012	Paid	Monthly	1	\$110,959.57	\$110,959.57
Jun 01, 2012	Paid	Monthly	1	\$110,991.31	\$110,991.31
Jul 01, 2012	Paid	Monthly	1	\$109,072.80	\$109,072.80
Aug 01, 2012	Paid	Monthly	1	\$109,311.24	\$109,311.24
Sep 01, 2012	Paid	Monthly	1	\$109,436.09	\$109,436.09
Oct 01, 2012	Paid	Monthly	1	\$109,920.56	\$109,920.56





Support Contractual Escrow Only Payments









Premier 10.0

Start of the Real-time Processing Journey

Real-time Processing

- Why real-time?
 - Evolution of faster payments
 - Reduced risk exposure
 - More intuitive for customers due to 24*7 access online and mobile access
 - Easier for an FI to support if transactions are posted in customer initiated order
 - Exception Management
- What is real-time?
 - Foundations
 - Real-time Lending
 - Real-time Deposit Processing
 - Exception Management
 - Processes that will remain part of the batch update







Real-time Foundations

How do you envision real-time being enabled?

- Would you implement institution-wide for all transactions?
- Would you implement on retail vs commercial?
- Controls by application (e.g. DDA, SAV, COD or LAS)?
- Controls by channel/transaction code (e.g. ATM, POS, Teller, ACH, In-clearings, On-line, Wire, etc.)?

- Not all FI's will want to utilize real-time the same way
 - Institution-level parameter to maintain current intra-day memo environment
 - Optional controls for enabling real-time processing
 - Ability to process a batch of transactions via a real-time service or at EOD
- Additional security controls required
 - Manual transaction entry / backdating transactions
 - Exception review and processing
- Balance display and inquiry changes
 - Suppress memopost activity for all real-time transactions
 - Re-label memo balance fields





Real-time Foundations

In a real-time processing environment which transactions are more important to be real-time?

- Internal sources (e.g. TMS posting, error correction (same day), reverse (prior day) and repost, Teller)
- Customer-facing transaction sources (e.g. ATM, Mobile, On-line)
- External sources which provide files (ACH, IF4 Files)

- There is a strong demand for real-time loan payment processing
 - Reverse and repost payments
 - Error correction
- With customers having 24*7 access to their accounts via mobile and on-line channels there is a priority on real-time processing of electronic transactions
- Existing memopost process provides real-time authorization for deposits







Real-time Lending

What are some of the real-time considerations for lending?

- Loan real-time requirements retail vs. mortgage vs. commercial
- Real-time advances
- Available credit
- Real-time payments
- Error correct / reverse repost
- Loan billing
- Payment schedule consolidation
- Participation transactions
- Collateral valuations for asset based lending







Real-time Deposit Processing

What are some of the real-time considerations for deposit processing?

What we are thinking ...

Pre-authorizations - (e.g. a restaurant transaction authorized for one amount, but the debit comes thru for a different amount which includes a tip)

- Temporary holds until debit posts (replaced by debit transaction once matched)
- Not displayed in history but they reduce available balance
- Processing controls for post-all nonpost-all parameters
- Sorting of non real-time transactions
- Sweep processing considerations
 - Is there a need for on-demand or point-in-time sweeps
 - EOD sweep processing still required
- Optional real-time or batch fees for each fee / charge
- Read sort pattern at the point of presentment for transaction settlement and transit totals
- Calculate and assign float, compute deposited items and cash in/out amounts





Real-time Exception Management

When posting real-time transactions is exception management required real-time or would "Day-2" exception management still exist? If yes, what types of exceptions would you like to be made available for real-time exception management (e.g. Suspect stop pays, NSF items, Nonposts, ACH exceptions, Positive pay items, Large dollar exceptions, Loan exceed available credit, prepayment, etc.)

In a real-time processing environment would your FI want to have fees assessed real-time? If so, what types of fees would you envision being assessed real-time (e.g. NSF fees, charge back/redeposit fees, stop item request fees, official check request fees, interim statement printing fees, loan advance, late charge, manual, recurring, over limit, extension fees, etc.)

- New real-time exception processing parameters based on the type of exception
- Real-time decision plan tables, default decisions, "force" logic, carryover flag, processing cutoff time, flag to indicate exceptions that have been reviewed and decisioned
- Option to nonpost exceptions vs. reversing/crediting back returned items
 - Date and time used for exceptions
 - Impact of exception decisions on other transactions
 - Returned stop that could pay NSF items
 - Pending exception when another transaction authorization is requested





Processes that will remain part of the batch update

- Integration entries
- Report generation
- Notification and statement production
- Recurring transfers
- Interest accrual and payment
- Service charging
- Initial and continuous overdraft identification
- Fee/Charge assessment
- Sweep processing







Engage

Dan Senft

Product Management





Engage Vision

An integrated, intuitive user experience allowing bankers to serve customers anytime, anywhere





Benefits of Engage

Enhanced Customer Service Enables
Branch
Transformation

Banker Mobility

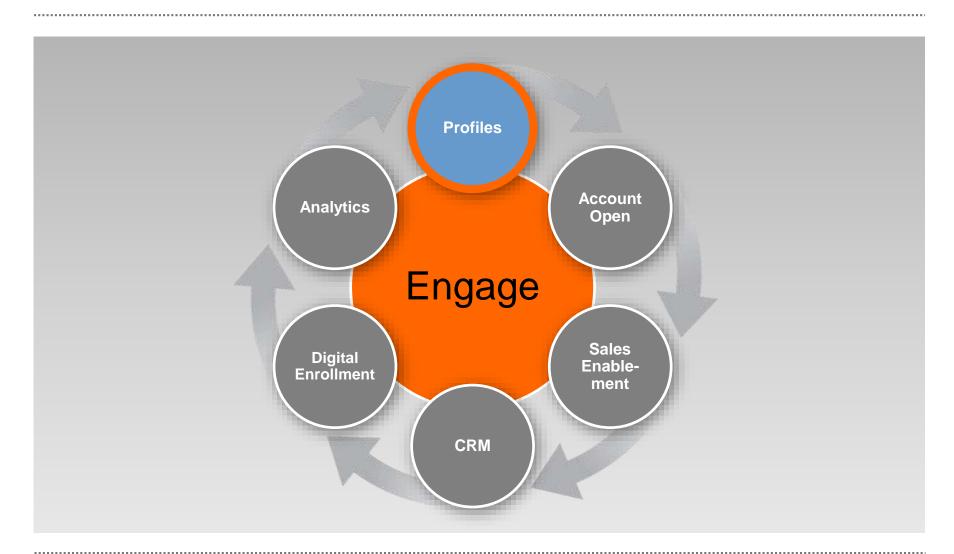
Generate New Account Growth

Streamlined Employee Training





Platform for Innovation







Key Updates since Forum

- Installed at first beta site in August with general release planned in Q4 2017
- Project Statistics
 - 35 total development sprints to build Profiles and the Engage Framework
 - Over 1,000 functional user stories completed
 - 423 Premier fields mapped to ESF







Engage: Profiles

First Module

Components Powered by Fiserv



Fiserv Design Language



Enterprise Services Framework



Bank Solutions
Platforms

Integrated Fiserv
Datasets





Engage: Profiles Overview

Overview

- Tablet-optimized interface focused on customer and account profiles
- Leveraging Enterprise
 Services Framework
 messaging to deliver data

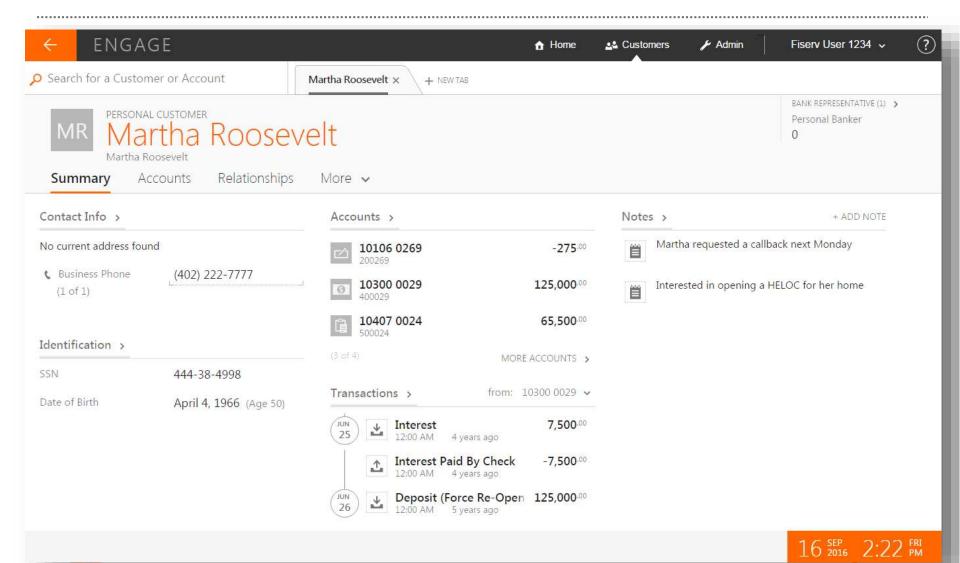
Key Features

- Modern, intuitive design
- Enhanced search (simplified criteria, user search history)
- Digital channel indicators for certain products
- Content groups highlighting key information
- Tabbed browsing
- Quick views



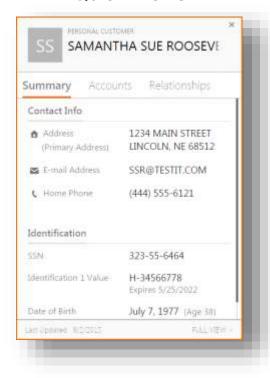


View of Engage: Profiles

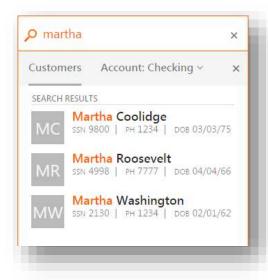


Features Focused on Efficiency

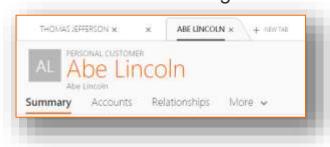
Quick Views



Enhanced Search



Tabbed Browsing





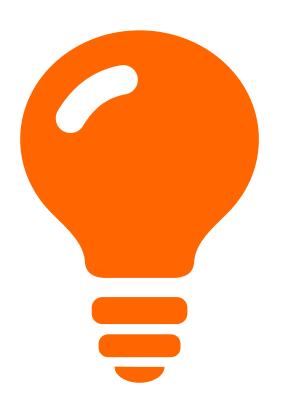


Key Technologies

- HTML5 Angular JS
 - JavaScript framework for front-end web development
- ASP.NET MVC
 - A lightweight, highly testable presentation framework
- WCF Web Services
 - Unified programming model for building service-oriented applications
- ESF
 - Fiserv's enterprise integration platform







Strategic Priorities

Engage Strategic Pillars

Strategic Themes Sales & Relationship Money Insights and Digital Needs Enablement Management Management Analytics Matching Phase 1 **Future Future Future Future** Seamless User Experience Mobile Ready







Beta Partnership – Union Bank & Trust

Call for Beta Clients

If you are interested in being a beta for Engage please contact your AE.

Connect with me:

Dan Senft

daniel.senft@fiserv.com







Break (15 minutes)

Enterprise Services Framework

Jamie J Deterding
SVP – Product Management





In This Session

Integration done right is more than a means of surviving; it's a way to engage, innovate and differentiate.

In this session, you will learn about:

- Enterprise Services Framework
- Communicator Advantage
- Product Strategy & Roadmap
- Product Deployment Topography & Release plan

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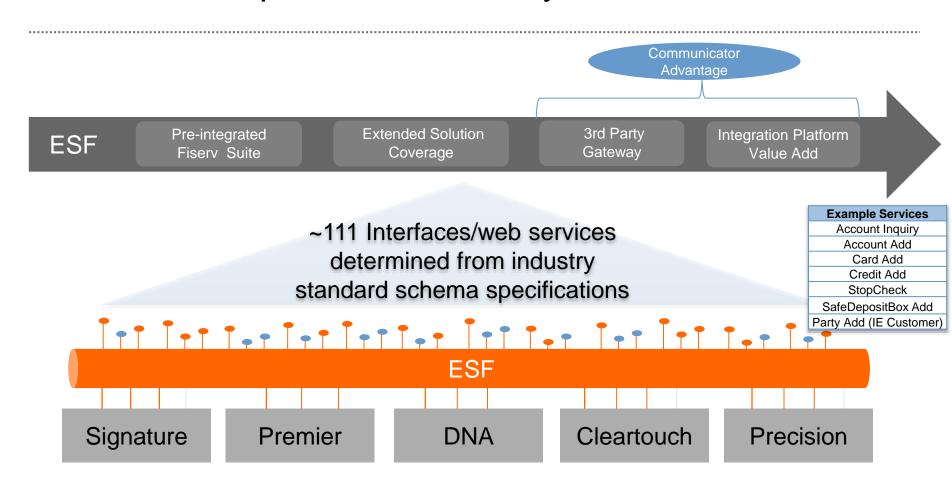
ESF / Communicator AdvantageTM

Pre-integrated **Extended Solution** 3rd Party Integration Platform Fiserv Suite Gateway Value Add Coverage Access to 5 Bank Platforms Credit Union Platforms Communicator Standardized out of Notifi Engage AFS **NEXT** Advantage platform the box API access and frameworks On Board **Business** Retail to atomic **FCRM** Online Advisor Online messages With enhanced **ESF Architect** Corillian BillPay Enact capabilities like OLB ASP Via Communicator client Wirexchang Advantage TNFN LoanServ Aperio™ configurability, security, auditing, For non-Fisery **IPS/NOWSM Digital Account Opening** Cards logging, transaction channels **Remote** dashboards, LOS **Check Deposit** Data service registry Capture **Fisery Content** Fisery to Non-Fisery Content





Services – Depth of functionality







Service Implementations - Breadth of functionality

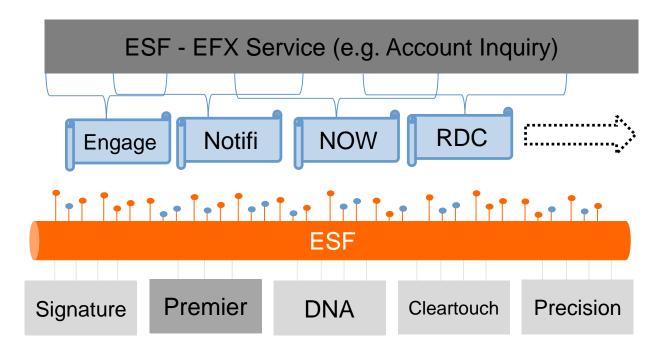
Certificate of Denosit Account Teller & Digital banking Savings Deposit Account **Account Inquiry Demand Deposit Account** Implementation *Implementation* AcctIng- UI_CDA AcctIng AcctInq AcctIng- UI_DDA_SDA NOW Accting AcctIng- UI_LOAN Accting Acct AcctIng-Internet Banking/Teller_CDA LOAN Accting Acctlng-Internet Banking/Teller_DDA Omni - Channel Accting AcctIng- Internet Banking/Teller_LOAN





Priority for Services and their implementation

ESF target is about delivery the depth of services (111) as well as the breadth of functionality with each service for various channels



EFX: Enterprise Financial eXchange





BIAN Service Domain Definition

BIAN Service Domain	Definition	
Account Management	Service domains that support account related services for cash/currency and reward point accounts. It includes account opening as well as account maintenance services.	
Cards	Service domains for all cards related products with operations related to creating, maintaining and retrieving card records. Examples include responses to specific requests like card activation, card limit validation, card current status, PIN change as card transaction history.	
Party	Service domains that cover the different party/customer reference information that is maintained by the bank for its institutional, corporate and consumer customers.	
Payments	Service domains supporting payment transactions, including the various connections to payment networks, central cash management and check processing.	
Servicing	Fulfillment capabilities for various customer servicing support functions in particular customer case resolution and analysis, and customer orders.	

BIAN: Banking Information Architecture Network





Service Roadmap for Premier

ESF 7.1 [Mar 2017]

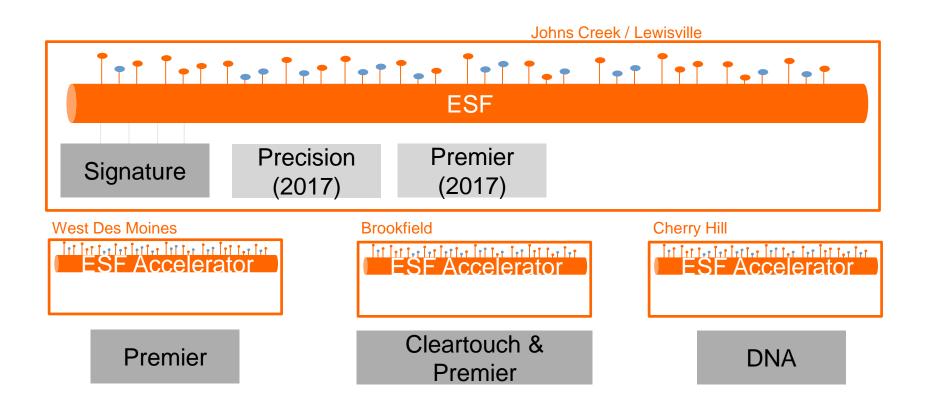
BIAN Service Domain	Services	Implementations
Account Management	15	48
Cards	10	10
Party	4	4
Payments	5	5
Servicing	1	1
Total	35	68

^{*}In addition to these services, we have around 18 services that were built for clients some of which are in the pipeline for future standardization





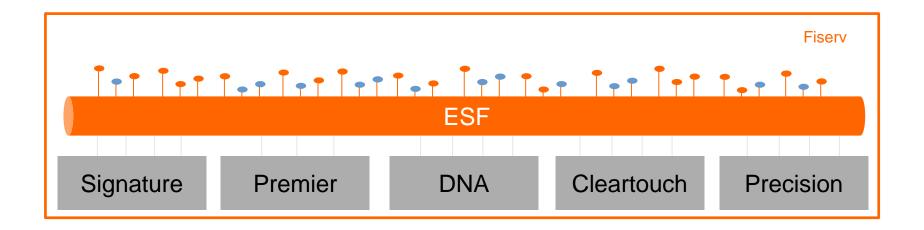
ESF Acceleration model: Build a Multi-Data Center and place ESF close to the Core







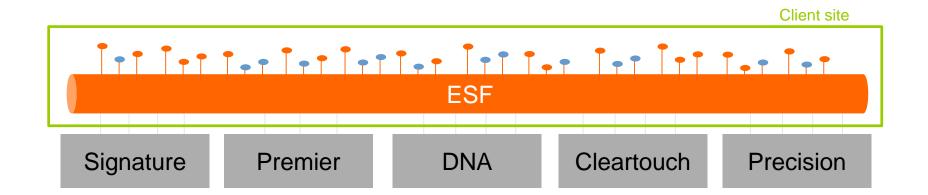
ESF can be hosted within Fiserv or....







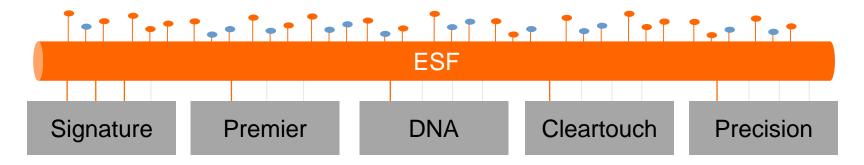
...hosted on-premise at the client site, or.....







FOCUS: ESF 7.0 MVP Release in November 2016

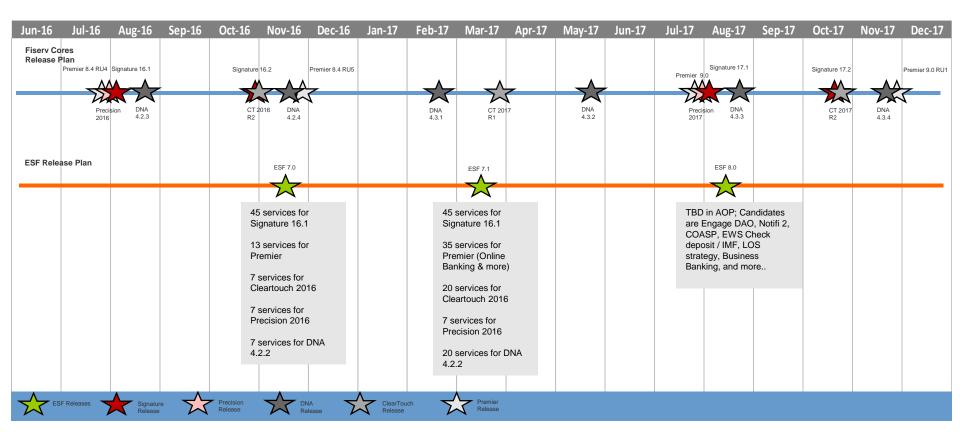


The next release will be in November with ESF 7.0 and will have 13 Premier Services for new solutions: Notifi, Engage, RDC, IPS/NOW, Aperio





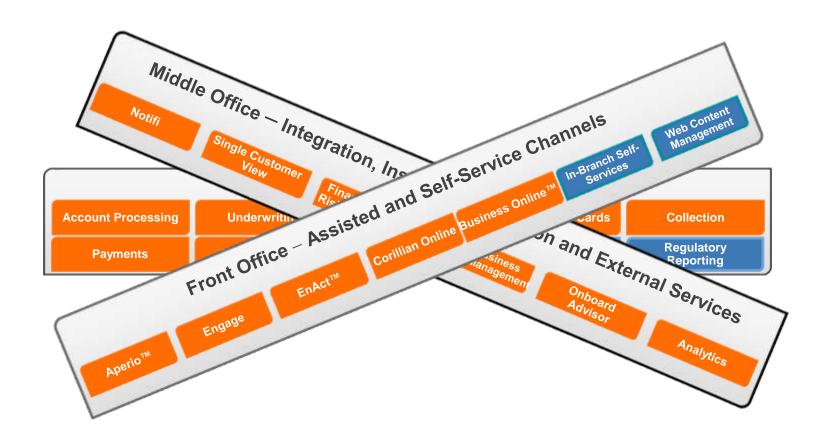
ESF Release Timeline – Provider Cores & ESF







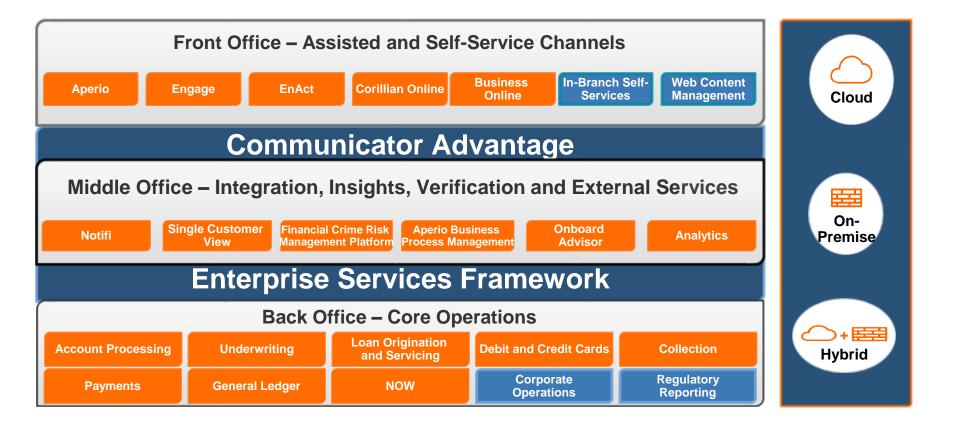
The World of Banking Is Complex







Integration Done Right With ESF







Notifism

Kent White



fiserv.

Notifi

Delivering alerts, notifications and events to any device or system in real-time.





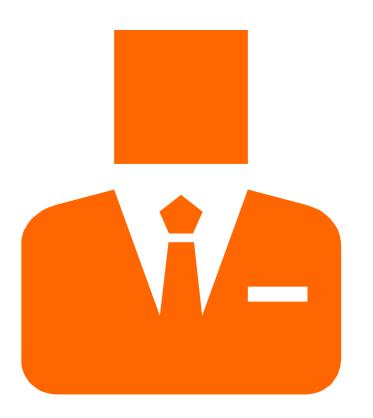
Agenda

- 1. Product Overview
- 2. FI Value
- 3. Current Roadmap Development
- 4. Future Roadmap
- 5. Pricing Model
- 6. Road Map Investment Discussion









Challenge

Business Problem

Demands for real time alerts set by non-financial interactions

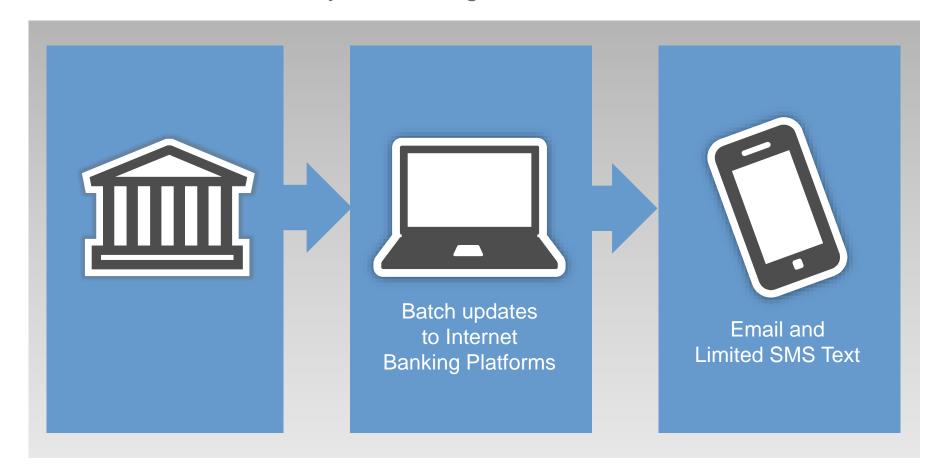






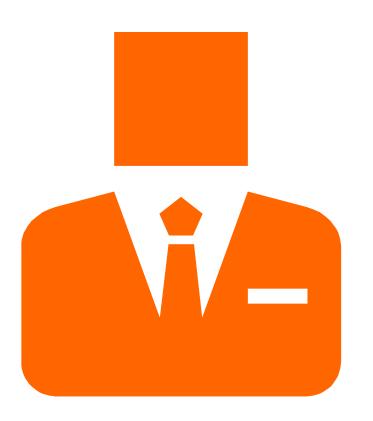
Current Offerings Are Limited

One Way, Not Intelligent, and Not Holistic



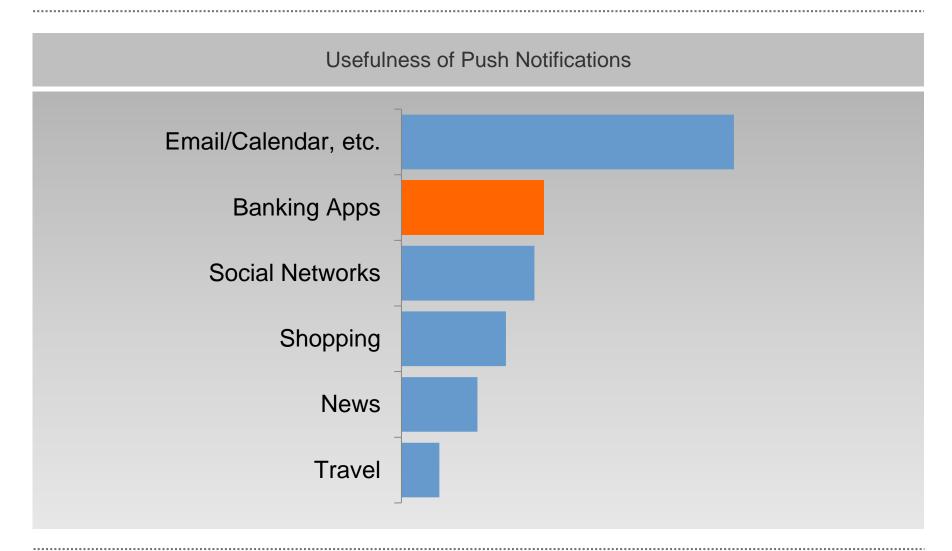






Opportunity

Consumers See Value In Notifications From Banks

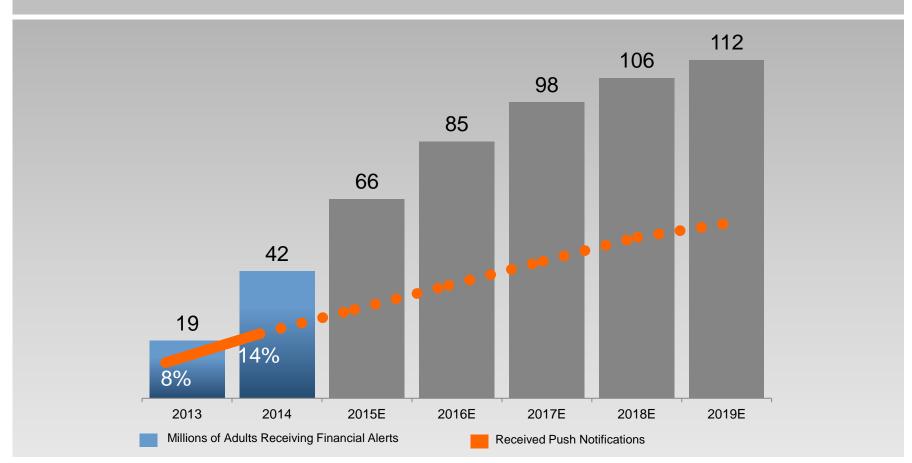






Future Trend

Over 50% of US Adults Will Receive Financial Alerts by 2019



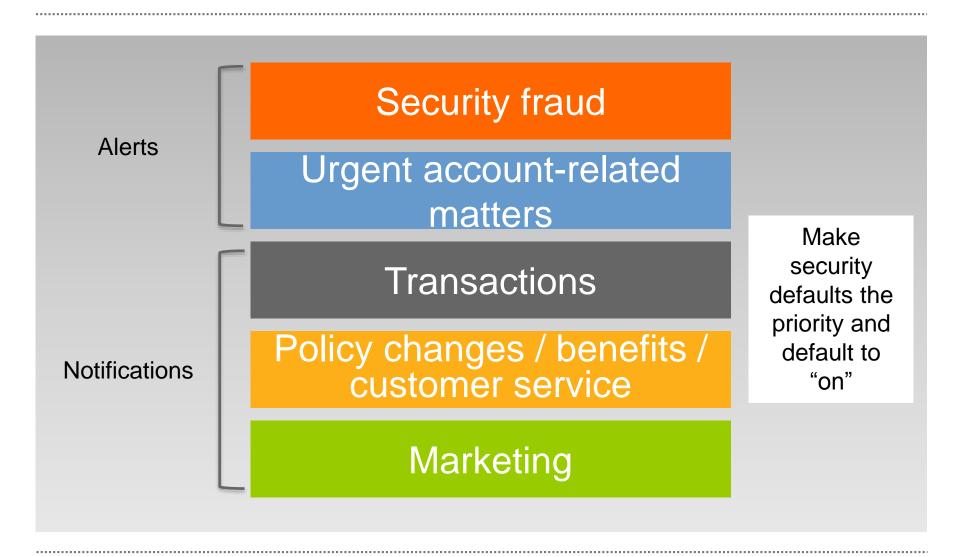






Focus Group

Our Consumer Research Results







Financial Institution Value Proposition

Customer Self-Service Productivity Real-Time Customer Reduced Fraud Risk Engagement Integration & Retention Exposure New Revenue **Opportunities**

User Value Statements

Customers expect <u>relevant</u> <u>information</u> delivered on <u>demand from their banks</u>.

Alerts allow customers the **flexibility to choose how and when** information is delivered.

Decisioning is put in the hands of the customer at the time of the event, making it easy to manage their money (no need to go into app).

Bankers are looking to enhance customer interactions in order to stay competitive.

Alerts create **new efficiencies** for banks and their customers.

Alerts further **mitigates risk** for customers and the bank.

Banks are continuously looking to increase customer trust and empower people.

Alerts provide customers a sense of security by allowing them to control their finances and make decisions in real-time.

Alerts give bankers the confidence to drive customer trust in their financial institutions.





Specific Financial Institution Value Drivers

Customer
Self Service
Productivity

Reduce Support Calls and Branch Visits

- End users get notified of conditions and are directed toward the actions to take.
- Customers that use alerts have fewer branch visits

Customer Engagement and Retention

Users engage with the brand more frequently

- Receiving notifications increases touch points and calls to action.
- · Alerts users engage with the brand more often.

Reduced Fraud Risk Exposure

Lower costs due to fraud exposure

 Notifying customers of questionable activity reduces fraud exposure windows and reduces financial losses.

New Revenue Opportunities

Notifications can lead to offers and increased transactions

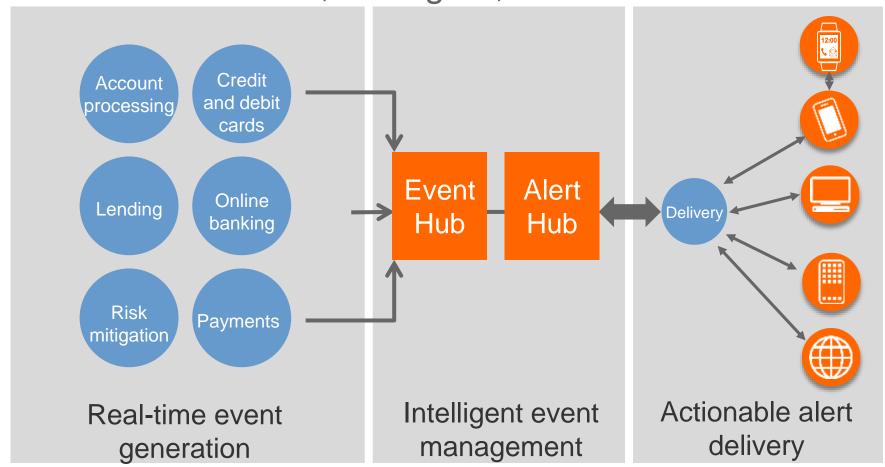
- NSF alerts can drive users to use overdraft protection plans.
- Transactions activity is higher for those receiving bill pay alerts.





Notifi – Events and Alerts Vision

Real-Time, Intelligent, Actionable







Notifi Alerts- Premier Core & RO/BO Online Banking

Phase 1 Alert List-(28)

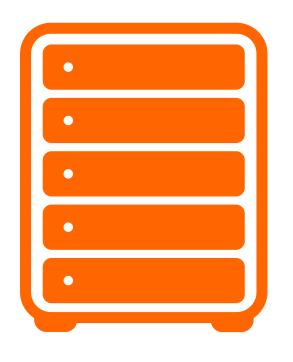
- · Account Balance Above Threshold
- Account Balance Below Threshold
- · Account Status Changed
- · Address has been changed
- ATM Withdrawal over XXXX dollar (\$) amount
- Check Number XXXX has cleared
- · Credit Transaction Posted
- Debit Transaction Posted
- · Deposit Credited to an account
- EFT Authorization Hold Added
- Electronic Draft deducted over dollar (\$) amount
- · Withdrawal over threshold
- Payment Posted to a Loan
- · Time account has been renewed
- Transaction Equals
- Transaction Over

- · Fees charged to an account
- · Hold added to an account
- · Hold removed from an account
- Incoming Transfer Executed over XXXX dollar (\$) amount
- Initial Deposit Posted to Time Account
- · Interest was paid to an account
- · Loan Advance Posted
- · Loan Past Due
- Loan Payment Due / Amount Due (at Billing)
- · Online banking login has been changed
- Online banking login has been locked out
- Outgoing Transfer Executed over XXXX dollar (\$) amount









Online Banking Alert Registration User Interface- Design



Accounts

Transfer

Home

Alerts

Account Balance Alert. Account *8000 balance is below set threshold of \$500.00. Your balance @ Jul 13, 2016 is \$-24559.78. for REGULAR XXD0.

Sent Jul 13, 2016

Account Balance Alert. Account *8000 balance is below set threshold of \$500.00. Your balance @ Jul 13, 2016 is \$-24559.78. for REGULAR XX00

Sent Jul 13, 2016

Account Balance Alert. Account *8000 balance is below set threshold of \$500.00. Your balance @ Jul 13, 2016 is \$-24559.78. for REGULAR XXD0

Sent Jul 13, 2016

A Manage Alerts

Mark as read

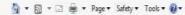
✓ Mark as read.

✓ Mark as read



Accounts		g ^e Edit Accounts → Print	
PRM0130 TEST	Available balance	Transfer #	
XX10	\$791,480.08	Recent ♥	
REGULAR	Available balance	Transfer Recent ✓	
XX00	\$-24,559.78		





Fiserv Homepage Help Log Off

Account Services



Home 7/19/2016 8:29 AM CDT (Refresh)

Alerts (manage)

Your account *0167 balance has recently fallen below the threshold you set of ✓ Mark 5000.00 Your available balance on 2016-06-01T09:01:56.98-0500 is 493.71 Sent Jun 01, 2016



Your account "0167 balance has recently fallen below the threshold you set of

✓ Mark 5000.00 Your available balance on 2016-06-27T11:35:38.25-0500 is 493.71
as read Sent May 27, 2016



Your online banking password has been changed at 2016-05-18T11:31:30.72- ✔ Mark Sent May 18, 2016

as read

- Go to all alerts (3) -

Favorite Accounts (edit)

Favorites

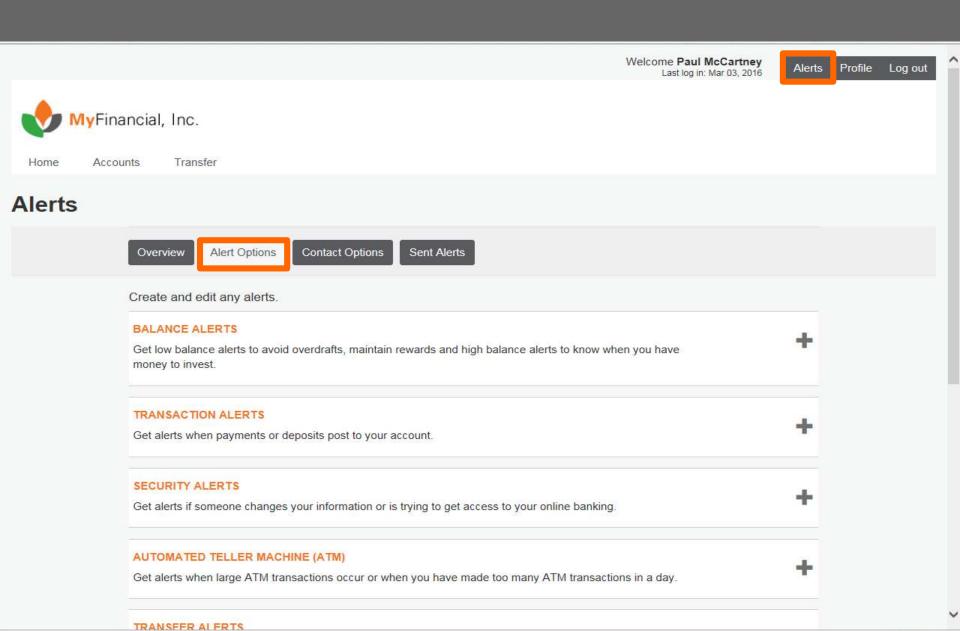
	Account Nickname	Current	Available
Ī	Washington Dry Cleaning Checking	488.68	488.68
1	Washington Dry Cleaning Payroll	490.21	490.21

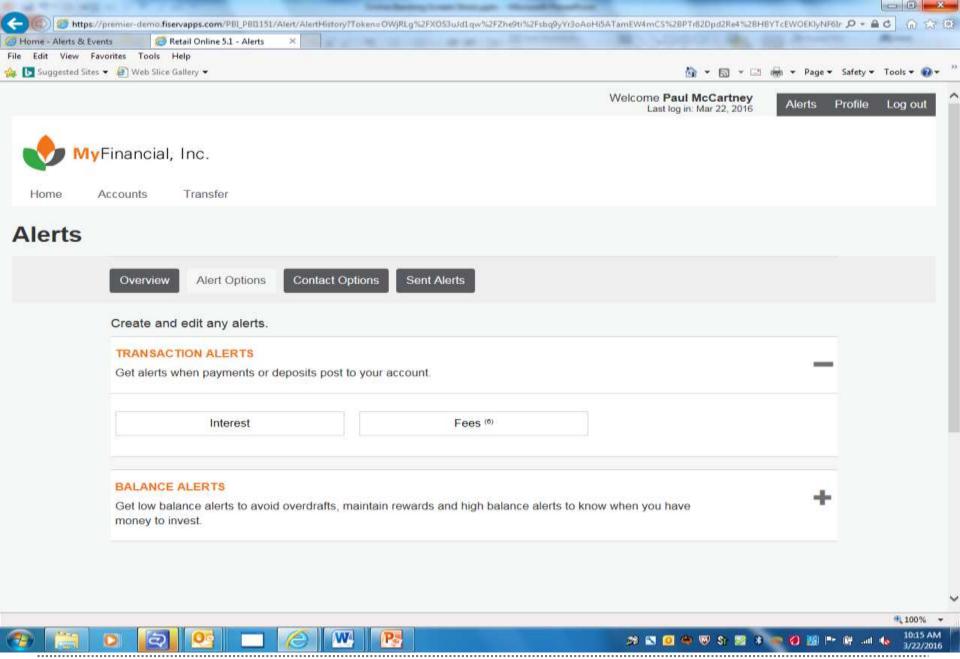
Quick Launch

Open New Account













0.00

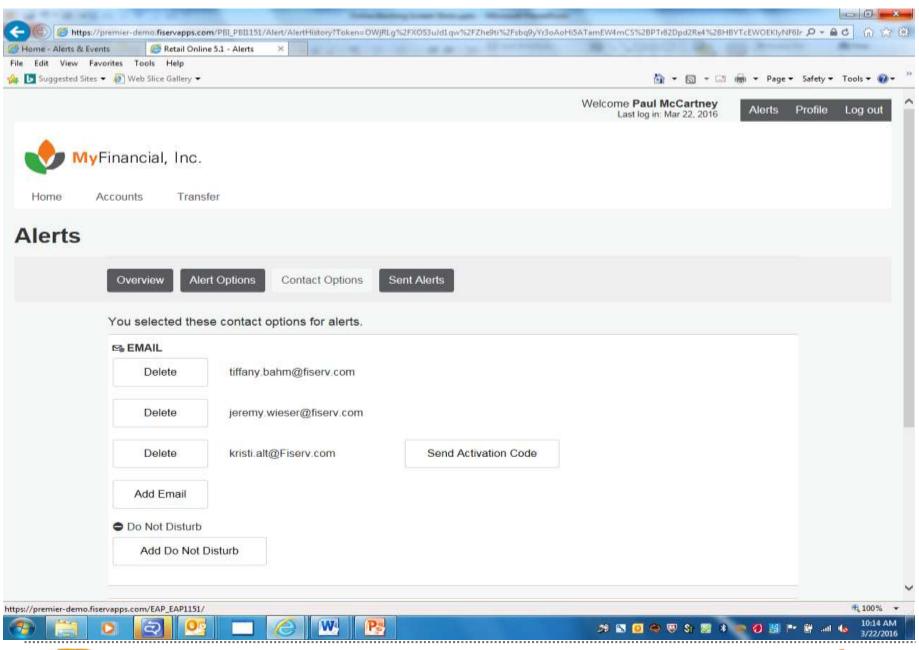
Save

Cancel

OTHER ALERTS

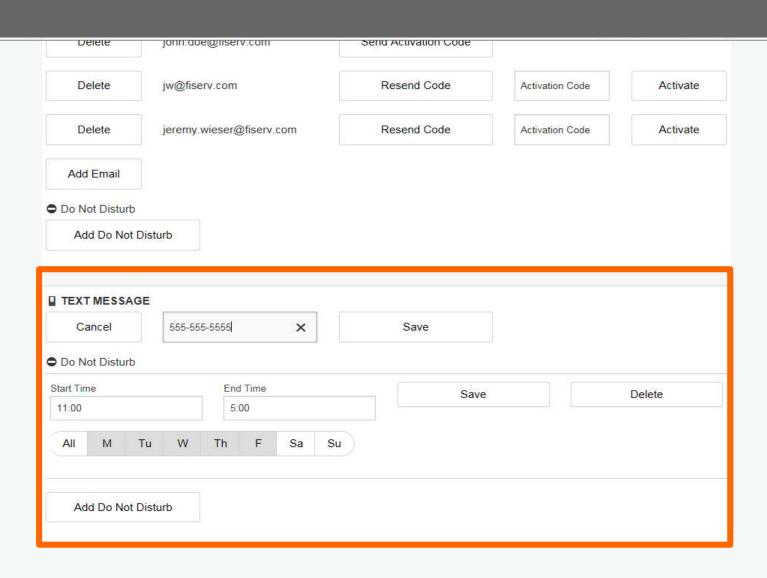
LOAN **0028

Get alerts when something unexpected happens.









Help Locations Contact Terms Privacy

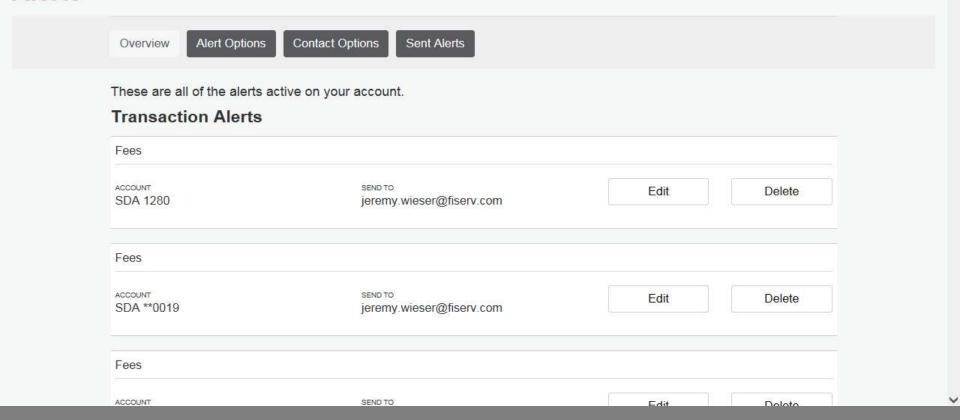


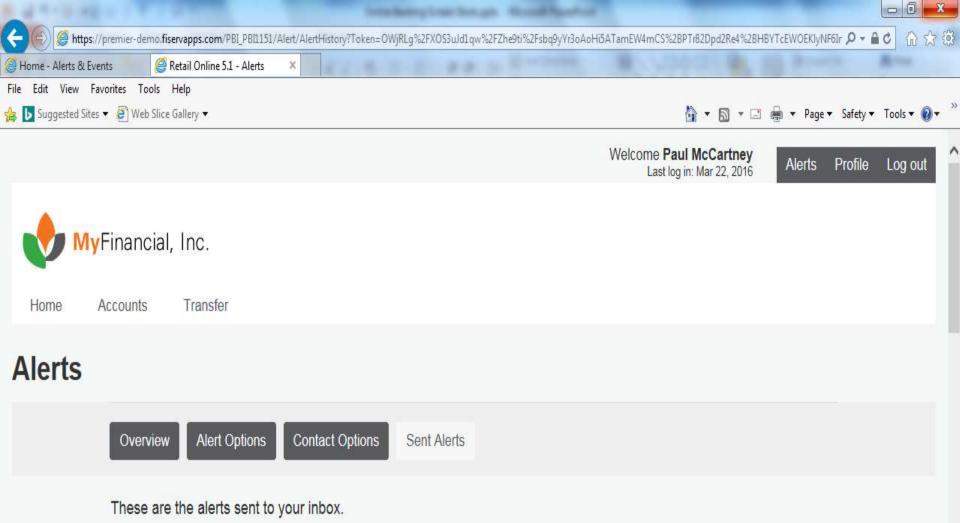
Home

Accounts

Transfer

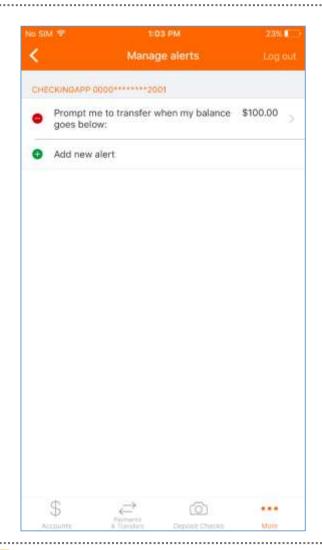
Alerts

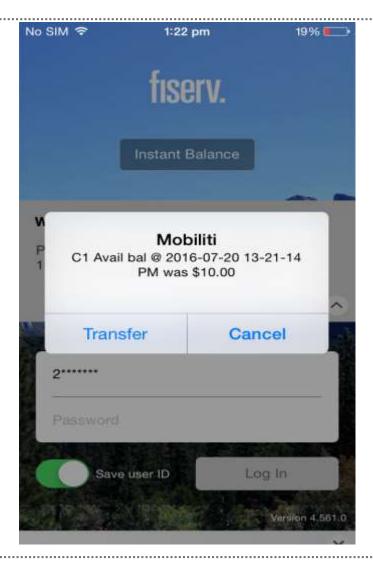




You have no alerts.

Mobiliti ASP **Actionable** Push Notifications- Q2 2017









Mobiliti Actionable Push Notifications

- Users receiving push notifications have the option to Close or Launch the notification once received
- Launching the notification will direct the user to the login screen
- After a successful login, the user will be directed to the screen where the action is to take place
- The action is completed as normal from the appropriate screen









Future Roadmap

Notifism – Key Product Capabilities

Key Themes

Event Hub – Publication / Subscription Model

Alert Hub

Publishers to Event Hub

Subscribers to Event Hub

2016	2017	2018
Event Hub	Event Hub • Management of complex events	Event Hub
 Event Hub Integration Multi Tenancy, Triggering, Composition and Delivery Business & Retail Online, Mobiliti & Corillian ASP Registration 	DNA Web, Virtual Branch Registration Additional Event Source Integration Actionable Alerts	Additional Event Source Integration
Premier , Cleartouch, Signature • Transaction, Maintenance & Scheduled Core Events Retail Online, Business Online, Mobiliti & Corillian ASP- security events	DNA, Precision & XP2 Cores Lending ACH Manager, Wire Manager Apple & Android Pay, Card Valet, nFact, DNA Web, Virtual Branch, Mobile Source Capture, TCM, Biller Solutions CheckFree RXP, Popmoney, TransferNow	Additional Event Publishers
Enterprise Alerts Engine	• Fraud, EDM	

Actionable Events & Alerts

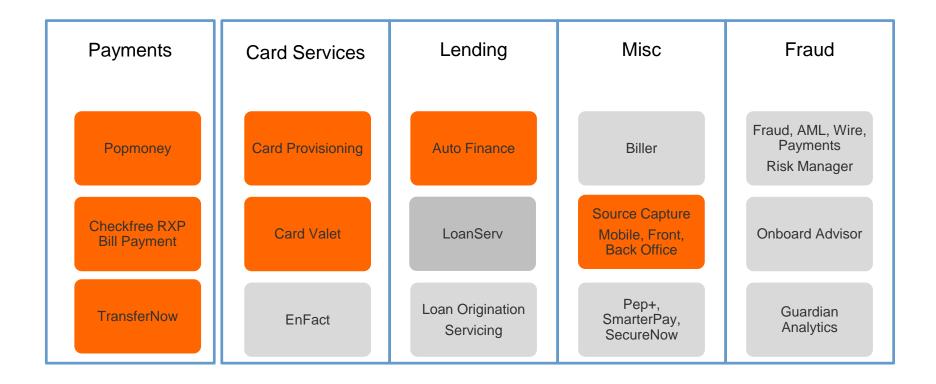
Enterprise Alerting & Events

High Speed Message Enablement





Go Forward Integration Priorities for Notifi



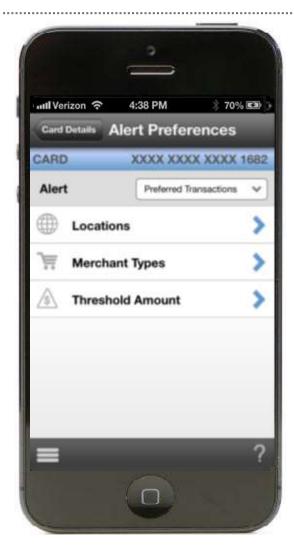




2016/2017 Priority

Card Valet

Your Card, On Your Terms



Integration with Notifi will move Card Valet beyond current Card Valet Alerting Feature Functionality

Card Valet Features

Alerts can be generated based on:

- Location
- Merchant types
- Threshold

Alerts are push notifications







Your Feedback

Pre-Meeting Questions

#1	What is the list of alerts that your organization would find most valuable if they were two way actionable alerts versus one way static alerts? Especially pertinent to document the small business and commercial alerts that would most benefit your institution and your customers.
#2	How many levels of approval are required for each specific two way actionable alert? Is it enough for the employee to approve or does the owner need to approve? Do some approvals require all employees to approve and then the owner is prompted to release the activity? What is the user experience around approvals?
#3	What are primary drivers that cause FI customer adoption of alerts?
#4	Preferred methods for potentially charging for high value alerts, such as suspect fraud activity or commercial limit extension offers?
#5	Notifi initial product offering is focused on alerting based on events occurring in Premier, Retail Online, and Business Online. What other systems (Fiserv & Third Party) would be most valuable to integrate to Notifi? Why? What systems would most benefit from being able to integrate with Notifi, not from an alerting perspective, but from a data access perspective?





Notifi – Events Only

Providing one stop data access via high speed, high available, universal message pump





Notifi – Events Only

One Stop Data Access



For Financial Institutions looking for Events only and not Alerts/Notifications

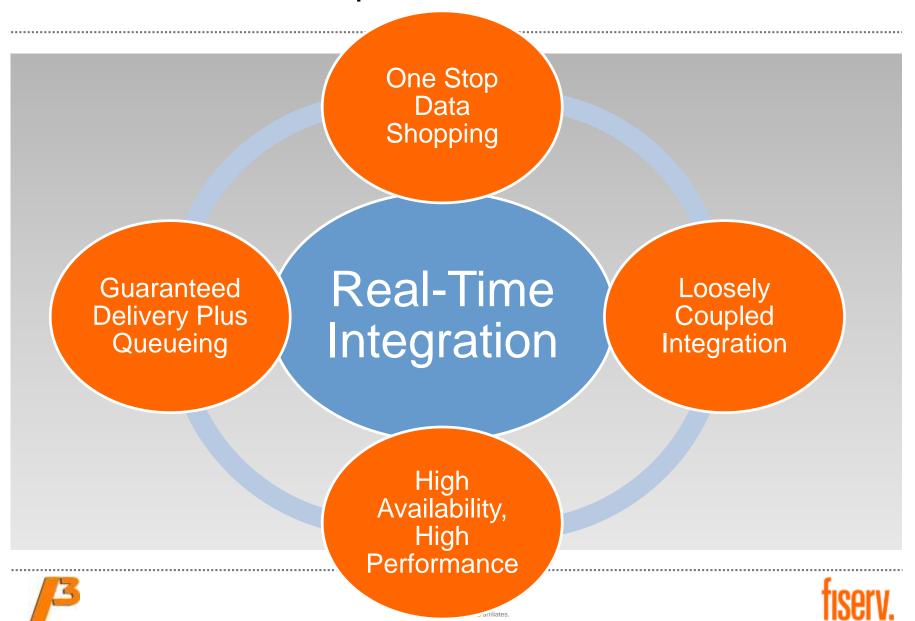
 Example – Fiserv core account processing client uses a Non-Fiserv On-Banking application or alerting system to trigger, compose, and deliver alerts

Fiserv's Notifi – Events providing One Stop Data Access at the Speed of Life





Event Hub Value Proposition



Specific Financial Institution Value Drivers

One Stop Data Shopping

Data From Across The Enterprise

- Premier, Precision, Signature, Cleartouch, DNA, Retail Online, Corillian, Mobiliti, PopMoney, TransferNow, Checkfree RXP Bill Pay, Card Valet, Lending Solutions, Source Capture, Non-Fiserv Third Party
- Customer, User, Transactional, Security, Notification,... data types

Loosely Coupled Integration

Providing Many-to-Many, Asynchronous Messaging

- Pub/Sub data model decouples senders and receivers.
- · Low-latency, durable, unified encrypted messaging
- Simultaneous delivery of same message to multiple subscribers

High Availability High Performance

Active-Active Data Center and Application

- True 24 x 7 x 365 application availability with zero maintenance windows
- · Continuous availability reducing unplanned outage risks
- Product offers complete scalability both vertically and horizontally

Guaranteed Delivery

Guaranteed Delivery Capabilities Coupled With Queueing

- Reduces risk of non delivery of events when subscribing application is unavailable or unresponsive.
- Event Hub provides 72 hours of replay coverage for any missed events

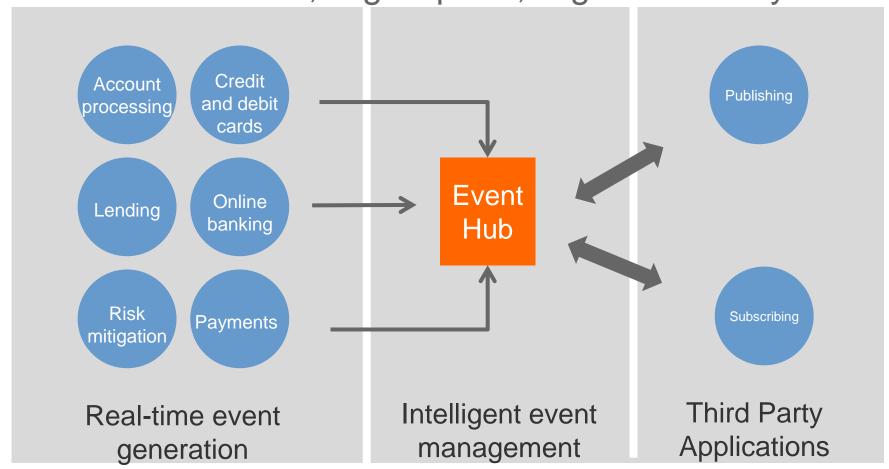




Notifi – Events Only

One Stop Data Access

Real-Time, High Speed, High Availability





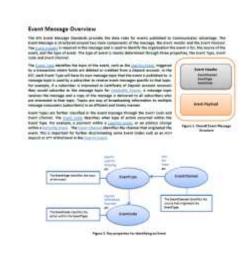


Notifi – Events Only

One Stop Data Access







EFX Event 1.2

API Messages | Standard

Business Rules Revision 1.2.0 Last Updated 1/13/2016 Fiserv-wide common message framework and standard for the exchange of financial information between Fiserv service providers, clients, partners, and third-party vendors is key component of Notifi – Events Only.



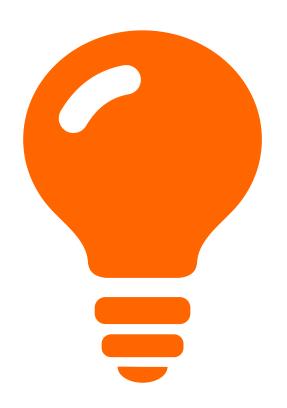


Fiserv Business Digital Channels Update

Justin Hiatt





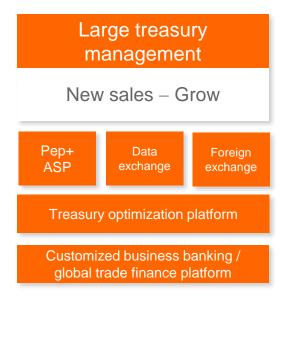


Business Banking Strategy and Road Map

Digital Business Banking Strategy











Business Banking Strategic Direction



• Comprehensive commercial services to support a business client across small, mid and corporate segments, on a single platform



 Mobile enablement delivering consistent business services across channels and devices



Next-generation experience defined by dynamic presentation by role,
 simplified business workflow automation and interactive alerts

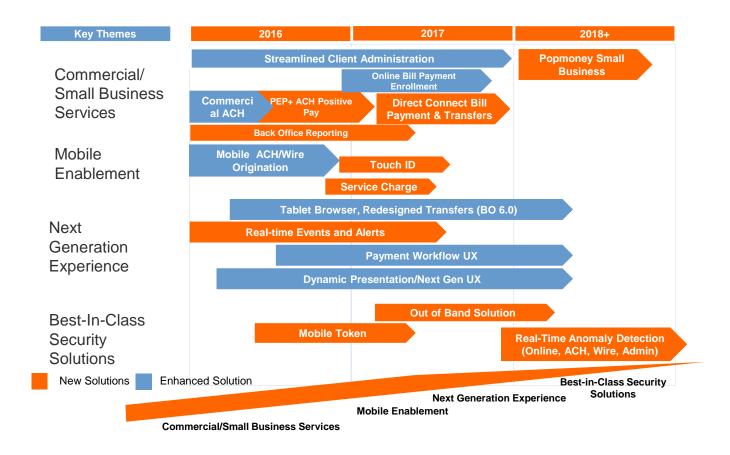


 Best-in-class security solutions enabling a layered security strategy proactively protecting financial institution and business client information





Current Roadmap Delivers Leading Differentiation







Fiserv Retail Digital Channels Update

Mike Ryan







Retail Online Roadmap within Bank Solutions Group

Recent Evolution of Retail Online



5.0 History

- Agreement to a full redesign vs. a refresh
- · Significant research and design effort
- · Substantial customer involvement
- Agile (different development effort)
- Beta clients usability improvement through additional features (banners, bill pay)
- 5.0 released on September 30, 2015
- Fiserv decision to delay GA and align to 2016

5.1 Migrations in Process

- Fiserv solutions for integration and deployment
- Additional usability scope completed
- · Great customer involvement
- Several Beta customers and early adopters
- 600+ clients signed up for 2016 upgrade
- 30+ clients currently live to customers
- Hundreds of client migrations currently in process

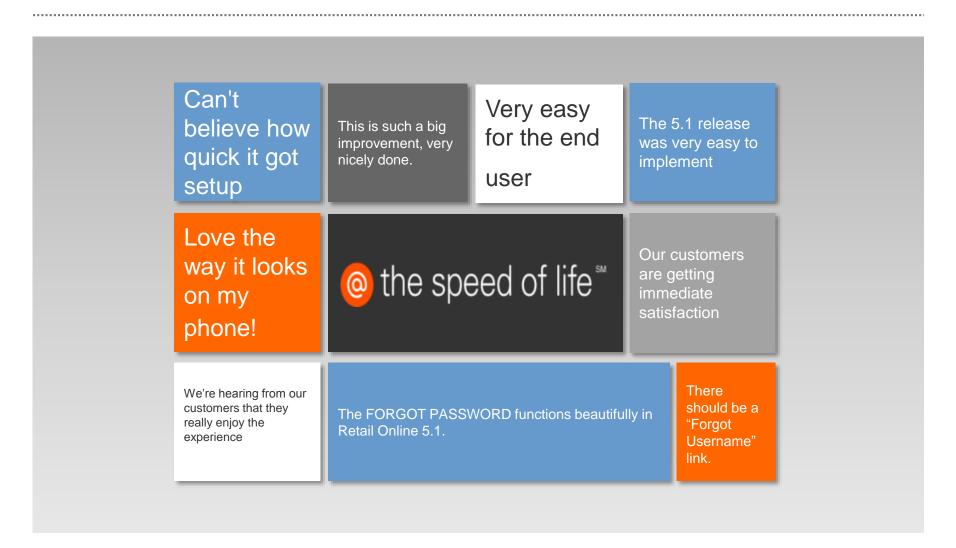
5.2 Already on its Way

- Carry on momentum of 5.1 upgrade with next iteration
- Continue closing gaps from 4.4
- Next multi-channel marketing integration
- Mobiliti on-device enrollment and user management
- Automated upgrade for clients already on version 5.1
- Q1 2017 delivery





What We're Hearing about Retail Online 5.1...







Retail Online – Key Product Capabilities

Key Themes 2017 2018 2019+ Comprehensiv Real-time Payments Card Maintenance **New Account Opening** e Retail Features Targeted Marketing Services Mobile **Next Generation** Cross-sell Campaigns **Push Notifications** Merchant Funded Offers Enablement **Enrollment on Device** PFM **Next Generation** Personalization and Self-Service tailoring Real-Time Alerts User **Improvements** Action based Navigation Experience Best-In-Class Real-Time Behavioral Security **Analytics Intervention** Solutions





Retail Online Release Schedule

Kan Thamas	Q1	Q2 Q3 Q4		Q4	H1 2017		H2 2017	
Key Themes	2016 2016 2016 2016 2016	2016	Q1	Q2	Q3	Q4		
Comprehensive Retail Services		R1			R2		(F	9
Mobile Enablement					R2			
Next Generation User Experience		R1			R2		(F	
Best-In-Class Security Solutions					R2			

RO 5.1 - R1

- New simplified user experience
- Responsive Design
- Improved integration to ancillary products (CheckFree Bill Pay, Mobiliti, TransferNow)
- Improved tablet experience
- · Improved theming capabilities
- Parallel deployment capabilities

Release 5.2 - R2

- Next Multi-Channel Marketing Integration
- * Mobiliti dependencies (On Device Enrollment, User Management)

2017 Roadmap

- Continue to Meet Market Needs
- · Priorities not yet finalized





^{*} Represents work that must be down on Retail Online in order to enable functionality within the Mobiliti roadmap. Roadmap items subject to development, business prioritization and scheduling changes.

Mobiliti™ ASP Roadmap

Dusty Baker





Mobiliti™ ASP – Key Product Capabilities

Key Themes	2016	2017	2018+		
Client Value	CardValet [®] Integration ¹ (Q3) * User Management (Q4)	Credit Score Check Deposit Funds Availability ¹ RDC Enhancements	SecureNow Integration ¹ Merchant Funded Offers ¹ Emerging trends		
Digital Engagement	*Loan Details (Q2) *Touch ID® (Q4) *On-Device Enrollment (Q4) *Integrated Send Money Flows (Q4) *TransferNow®¹ (Q4) *Add Payee¹ (Q4) Notifi SM (Push)¹ (Q4)	*Transfer Enhancements New Notifi Alerts (incl. Actionable) Marketing Messages ¹	Wearables¹ Mobile Optimized PFM *Consumer Communications¹ *Customer Self Serve Features Advanced Biometrics Emerging trends		
Differentiated Solutions	Instant Balance (Q2) *Bill Capture ¹ (Q4)	*Online Account Opening (Ex: Checking, Loans, etc.) ¹ CardValet Enhancements	Digital Cards ¹ Emerging trends		
	Product Enhancements	Product Enhancements	Product Enhancements		

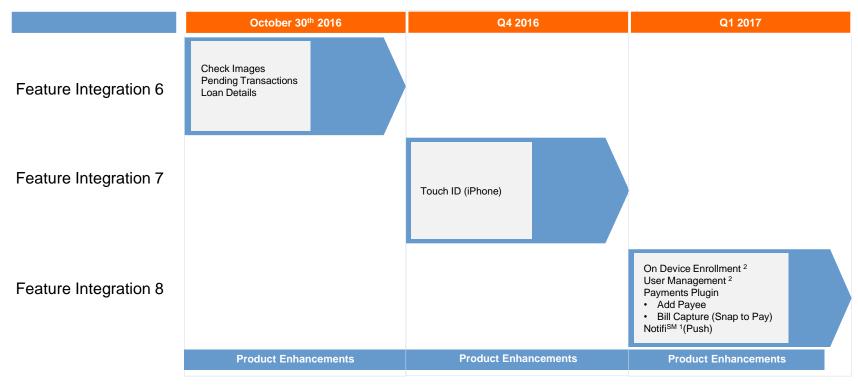
Note: Roadmap items subject to development, business prioritization and scheduling changes 1: FI must purchase to enable this feature





^{*} Exact availability depends upon OLB integration date

Mobiliti ASP Roadmap Bank Solutions Integration Projects



Note: Roadmap items subject to development, business prioritization and scheduling changes





^{1:} FI must purchase to enable this feature

^{2.} Requires Retail Online 5.2

^{*} Exact availability depends upon OLB integration date

Fisery Sentry Solutions

Phil Arbie





335b

28%

1.5m x 2020





"The gap between security openings and skilled people to fill them will reach 15 million by 2020."

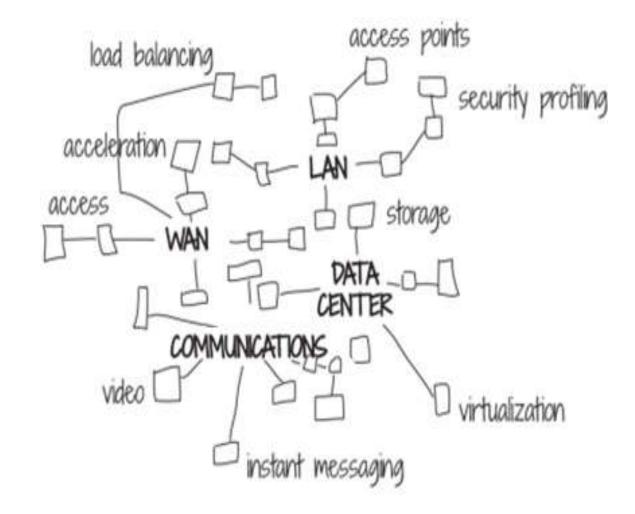
Frost & Sullivan, The 2015 (ISC) Global Information Security Workforce Study.

April 2015





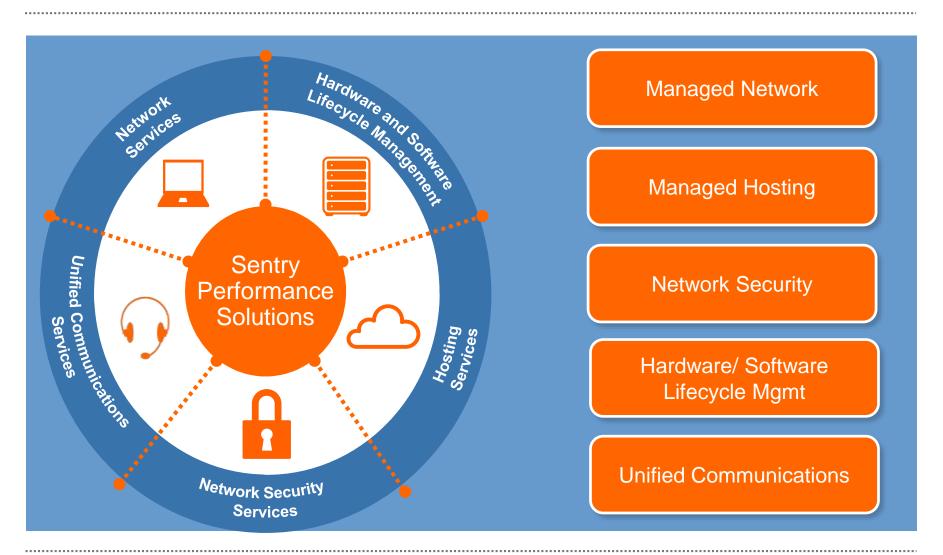
Infrastructure Complexity and Challenges







Sentry Performance Solutions







Industry-Leading Provider of Infrastructure Technology

More than 5,800

Circuits Managed

More than 4.000

Managed Services Clients More than 1.200

Managed Firewalls More than **6.000**

Devices
Supported
Under
Helpdesk
Break/Fix

120+

Fiserv Associates





Key 2016 Client Initiatives

Best Practices /
Efficiency Engagements

Mergers and Acquisitions

2. IT Risk Mitigation / Staffing Challenges

Branch
Transformation





Solutions Trending Now

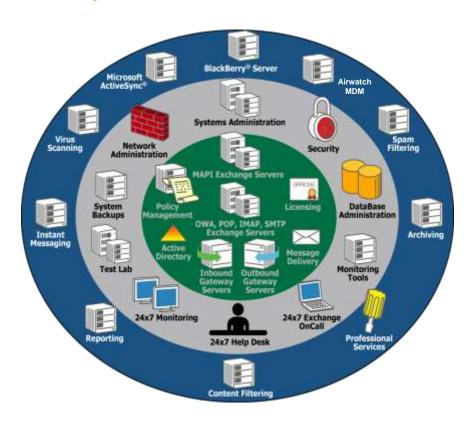
- Hosted secure email
- Remote patching, maintenance, help desk
- 24/7 security monitoring (firewall)
- laaS (we host & manage servers and networks)
- Transformation: branch wireless & WiFi, remote, untethered
- Malware-free threat detection





Email is Complex

You run your business, we run your email







- Refocus IT Resources
 - Focus on core business, not messaging
- Maintain Control
 - Manage users
- Predictable pricing
 - Move from CAPEX to OPEX
 - Pay for what you use
- Built in upgrades
 - Exchange 2013... 2015... 2018
- Redundant platforms
 - Exchange
 - UNIX
- Compliance ready









Branch Transformation

Complexities of Branch Transformation

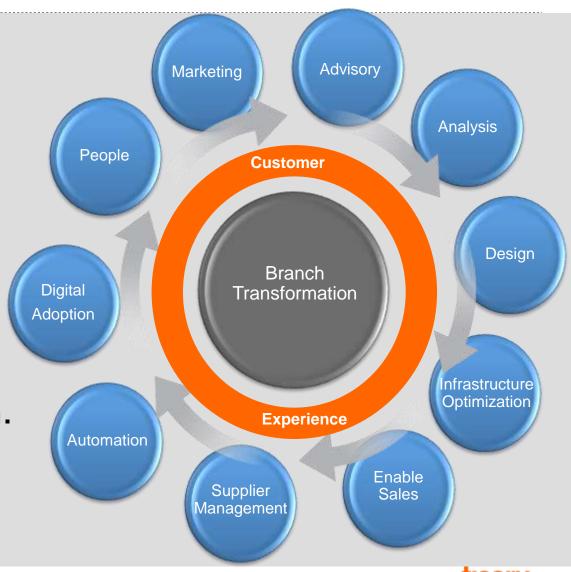






Branch Transformation Foundation — Strategic Initiative

We're offering a foundation to help customers navigate the complexities of a branch transformation.





TISETV.

Sentry Performance Solutions

Gain agility & scalability

Pay for what you use and scale your IT infrastructure up and down easily, as needed



Grow your business and increase revenue

By focusing on innovation and strategy instead of unplanned work



Reduce cost and risk

Keep you Safe and Efficient







Connect with us

Thank you





fiserv.