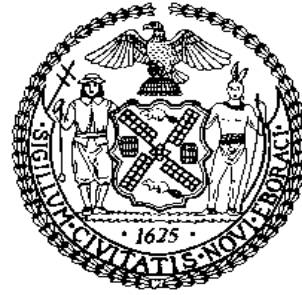




COMMON INVESTMENT MEETING

Public Session



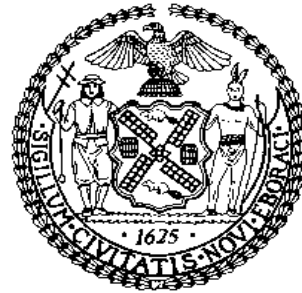
THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER

February 15, 2017

STRATEGIC INITIATIVES UPDATE

A Roadmap for Reform

Developing a Stronger Bureau of Asset Management
2017 Update



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER

February, 2017

Roadmap for Reform Recap

Strategic Initiatives Group

**Formed to
modernize
administration,
operations and
technology
activities**

Work with BOA to adopt streamlined fund accounting process

Implement electronic cash flow management system

Re-structure BAM into clear front, middle and back office groups

Assess technology needs and manage new software procurement and implementation

Create Key Performance Metrics and monitor with Standardized Operational Risk Framework

Introduce tracking tools to monitor implementation of recommendations



Roadmap for Reform Recap

Strategic Initiatives Group

Formed to
modernize
administration,
operations and
technology
activities

Work with BOA to adopt streamlined fund accounting process



Implement electronic cash flow management system



Re-structure BAM into clear front, middle and back office groups



Assess technology needs and manage new software procurement and implementation



Create Key Performance Metrics and monitor with Standardized Operational Risk Framework



Introduce tracking tools to monitor implementation of recommendations



KEY:

Completed



In Progress



2016 BAM Accomplishments Address the Critical Funston Findings

FUNSTON PRIORITIES

Q1/Q2 2016

Q3 2016

Q4 2016

Transition Book of Record to SSB & Optimize MyStateStreet.com	<ul style="list-style-type: none"> Leveraged SSB fund accounting Improved oversight of SSB relationship 	<ul style="list-style-type: none"> Retired QED accounting platform <ul style="list-style-type: none"> Converted to State Street GL Spread Sheet retirement started 	<ul style="list-style-type: none"> Improved investment manager fee payment process Started Policy and Procedures
Build Cash Management Capabilities & Reduce Cash Drag	<ul style="list-style-type: none"> Implemented eCFM 	<ul style="list-style-type: none"> Implemented Bloomberg AIM 	<ul style="list-style-type: none"> Closed terminated fund accounts
Build a Middle Office & Redeploy Investment Control Resources	<ul style="list-style-type: none"> Hired key staff 	<ul style="list-style-type: none"> Developed organizational model for Middle Office Began rollout Key Performance Indicators (KPI) 	<ul style="list-style-type: none"> Launched Investment Operations Support Re-engineered Investment Manager reconciliation process
Build Compliance Capabilities	<ul style="list-style-type: none"> Standardized Investment Committee Employee compliance training BAM calendar 	<ul style="list-style-type: none"> Built out Compliance team Enhanced Investment Limitations and Restrictions monitoring 	<ul style="list-style-type: none"> Implemented personal trading monitoring
Enhance Risk Management & Create ERM Framework	<ul style="list-style-type: none"> Created Data Warehouse 	<ul style="list-style-type: none"> Launched daily performance and position monitoring 	<ul style="list-style-type: none"> Enhanced Securities Lending governance practices and oversight Automated rebalancing analysis Issued Risk system RFP
Improve Investment Performance Capabilities	<ul style="list-style-type: none"> Automated performance reporting on a net of fees basis 	<ul style="list-style-type: none"> Proposed new asset allocations 	<ul style="list-style-type: none"> Issued Alternatives Asset system RFP



Roadmap for Reform: Building on Progress in 2017

FUNSTON PRIORITIES

Q1 2017

Q2 2017

Q3 2017

Q4 2017

Transition Book of Record to SSB & Optimize MyStateStreet.com

- Plan and design rollout of DataGX warehouse

- Complete Policies and Practices documentation

- Implement Phase I of DataGX warehouse

- Enrich DataGX capabilities

Build Cash Management Capabilities & Reduce Cash Drag

- Increase sweep frequency for Alternative fund accounts
- Implement Cash monitoring

- Launch Cash Management accounts

- eCFM phase II (Alternatives)

- Enhance Custodian payment processing

Build a Middle Office & Redeploy Investment Control Resources

- Migrate to Oversight Functions
- Staff training

- Rollout Policy and Practices Document
- Fill Operations Management positions

- Full rollout of Investment Operations Support
- Introduce Operational Scorecards

- Implement Alternative Asset solution

Build Compliance Capabilities

- Campaign finance database automation

- Regulatory Education

- Investment Guidelines Metrics

- Manager Due Diligence Enhancements

Enhance Risk Management & Create ERM Framework

- Assess Risk Management systems vendors
- Hired Sr Risk staff

- Enhance KPIs
- Roll out Risk register/establish Risk committee

- Implement Risk System

- Standardize Risk reports for Boards

Improve Investment Performance Capabilities

- Assess Alternative Asset vendors
- Issue Contract Management System RFP

- Procure Alternatives Asset System

- Implement Contract Management System

- Reporting and Analytic Enhancements

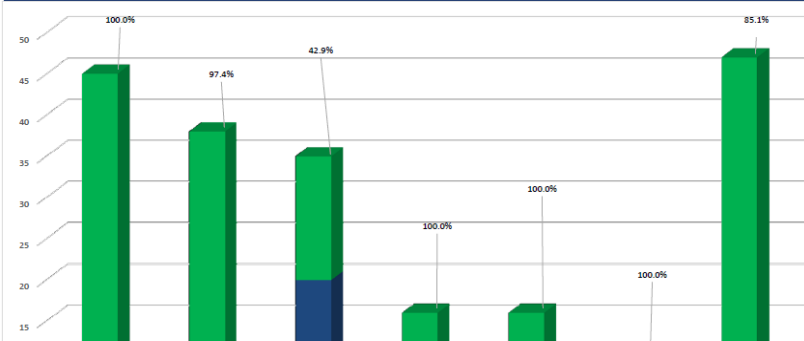


Sample KPIs

Status of Tasks & Standards Completion as of 12/23/2016 - includes new hires

	1-Not Started	2-Draft	3-Waiting for Review	4-Waiting for Resubmit	5-Waiting for Supervisor Finalization	6-Waiting for Employee Acknowledgement	7-Completed	Grand Total
BHATT								
DONE		2						
DRAYCOTT								
EVANS								
GARLAND								
HADDAD								
JETER								
SCHNAPER								
VICKERS								
Grand Total								

Manager Oversight Due Diligence Meetings Calendar Year 2016



Alternatives SSB-NYC Spreadsheet Reconciliation Status Progress towards retiring Spreadsheets - as of 1/17/2017

Stage	In Process	Not Started	Retired	Grand Total
No. of Spreadsheets	640	19	581	1,240

Notes:
We have 1240 total worksheets.
We have 759 worksheets that should be retired by 10/31/2016.
We have 454 worksheets that should be retired by 11/30/2016.
We have 19 worksheets that need to be worked on.
We have a backlog of 151 worksheets as NYC.

Recon Stage	1 - Recon Not Needed	2 - To Be Reconciled	3 - Reconciled	4 - Ready to Send to SSB	4 - Sent to SSB	5 - Needs Approval	Grand
AF		10	68	0	30	0	
GRP TR-OPP-FI		2	33		6		
HEDGE FUND		4					
OPP-ACT-NON US		4					
OPP-ACT-US		4	31		24		
OPP-FI-DISTD		9	0	11	121	29	
AIS		4	3		77		
Alt Inv		5					
Fixed-Credit				4	34	29	
RE PEQ					10		
RE PEQ - DIR							
REAL ASSETS				4			
Grand Total	0	19	68	11	151	29	

Recon Stage	1 - Recon Not Needed	2 - To Be Reconciled	3 - Reconciled	4 - Ready to Send to SSB	4 - Sent to SSB	5 - Needs Approval
AF	0.0%	5.7%	39.1%	0.0%	17.2%	0.0%
AIS	0.0%	0.8%	0.0%	1.0%	11.3%	2.7%
Grand Total	0.0%	1.5%	5.4%	0.9%	12.1%	2.3%

November Monthly Accounting

Main Type	Sub-Type	Closed	BD	Due
Short Term		44	6th b.d.	
Equity		462	7th b.d.	
	Equity	343		
	Global Equity	115		
	Line Item - Equity	1		
	Line Item - Global Equity	3		
ETI		49	8th b.d.	
Alternatives		1259	9th b.d.	
	Alternative	925		
	HEDGE FUND	54		
	OPP-FI-DISTD	48		
	RE PEQ	177		
	RE PEQ - DIR	15		
	REAL ASSETS	40		
Fixed Income		248	10th b.d.	
	Bank Loans	21		
	Cash	25		
	Fixed Income	184		
	Global Fixed	2		
	Line Item - Fixed Income	9		
	STIF	4		
	TIPS	3		
Plan Funds		372	12th b.d.	
	Plan Account	229		
	ETI - PLAN	143		
PPD		15	16th b.d.	
	PPD	15		
Grand Total		2449		
NRS Plan Fund Feed	SSB Error, confirmation e-mail sent late to NRS		12th B.D.	

Preliminary Detailed: Investment Manager Reconciliation Heat Map Accounting

As part of the month end reporting cycle, State Street reaches out to Investment Managers and requests that they perform a reconciliation to determine if the manager's Net Asset Value is within established tolerance to the custodian. Investment Managers are asked to submit a Reconciliation, Holdings and NAV file by the 3rd and 12th Business Days of each month. Below are the results.

October BD 3

On Time	219	58.87%
Late	2	0.54%
Not Received	151	40.59%
Manager Total	372	100.00%

November BD 3

On Time	301	80.91%
Late	52	13.98%
Not Received	19	5.11%
Manager Total	372	100.00%

October BD 12

On Time	302	81.18%
Late	28	7.53%
Not Received	42	11.29%
Manager Total	372	100.00%

November BD 12

On Time	262	70.43%
Late	0	0.00%
Not Received	110	29.57%
Manager Total	372	100.00%

Investment Manager Reconciliation Heat Map Performance

As part of the State Street Investment Analytics month end reporting cycle, State Street reaches out to Investment Managers and requests that they perform a summary reconciliation to determine if the manager's performance is within established tolerance to the custodian. Investment Managers are asked to submit their monthly beginning balance, ending balance and rate of return by the 16th Business Day of each month. Below are the results for October and November 2016

October

On Time	339	94.96%
Not Received	18	5.04%
Manager Total	357	

November

On Time	336	94.12%
Not Received	21	5.88%
Manager Total	357	

2017 Contract Renewals

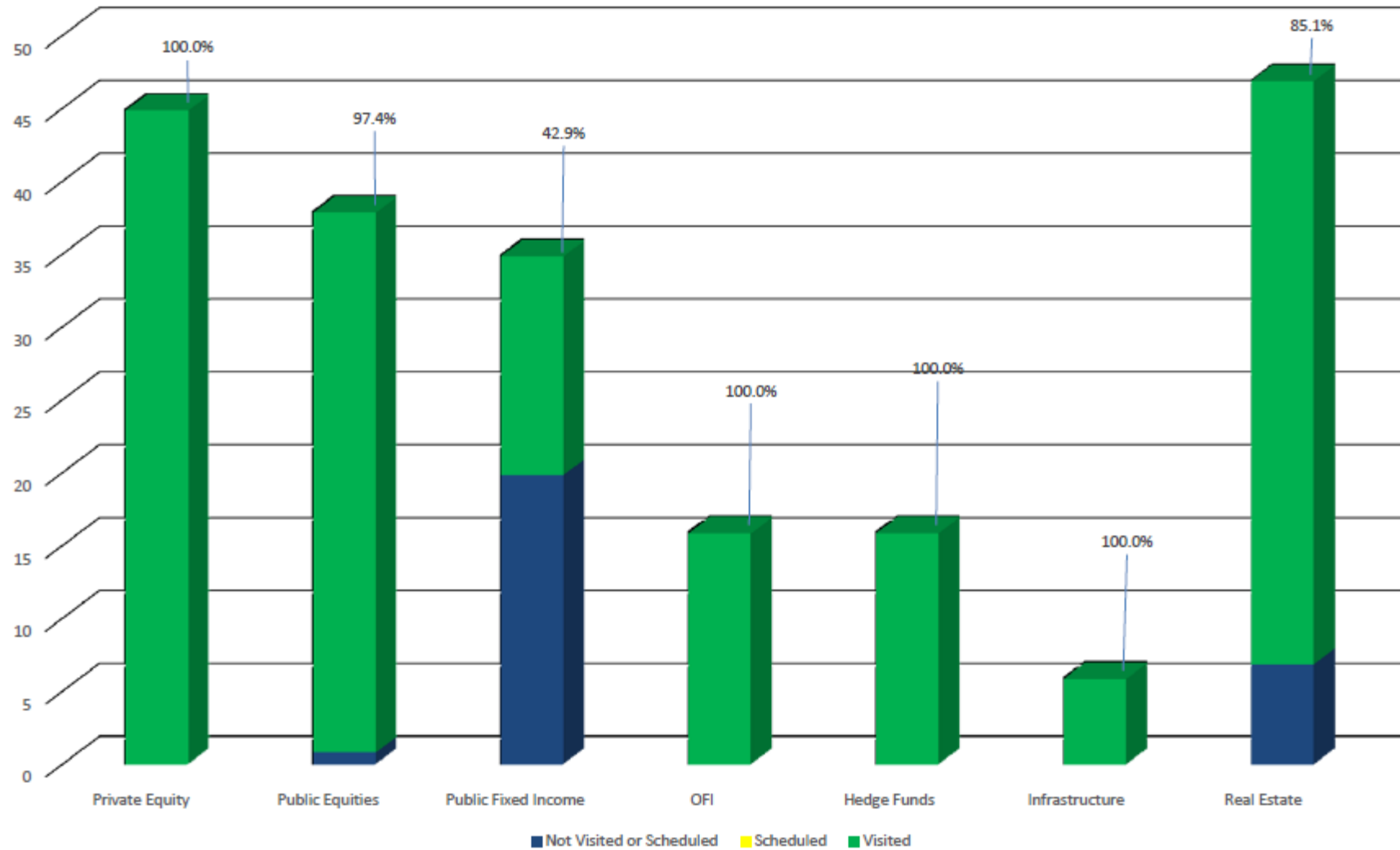
Category	3/2/2017	3/31/2017	4/30/2017	5/21/2017	5/31/2017	6/30/2017	9/30/2017	10/19/2017	10/31/2017	11/27/2017	12/15/2017	12/31/2017	Grand Total
Administrative Services													
Consultants						2	1	1					
Convertible Bonds			3										
Custody & Related				1		1							
Fundamental Indexing			2										
International Emerging Markets Equity													
License Agreements					1				1	1	1		
Master Custody													
Private Equity Brokerage Services				1									
Real Estate Equity Services													
Tax Consultant			2										
Transition Management Independent													
Evaluation Services	1												
Grand Total	1	7	1	1	1	3	2	1	1	1	1	12	3

BAM Senior Management Tracking - as of 12/01/2016

#	Project Name	Project Description	Sponsor	Project Manager	Start Date	End Date	Status
1	Personal Trading Monitoring Software Implementation	Implement TerraNova, the vendor selected to electronically capture and monitor employees' personal trading activity for the purposes of BAM's upcoming Personal Trading Policy	Shashi Bhatt	Shashi Bhatt	1/1/2016	1/31/2017	Green
2	Performance Evaluations and Objectives	Complete objectives for all BAM staff members	Scott Evans	All Managers	8/24/2016	8/8/2016	Red



Manager Oversight Due Diligence Meetings Calendar Year 2016



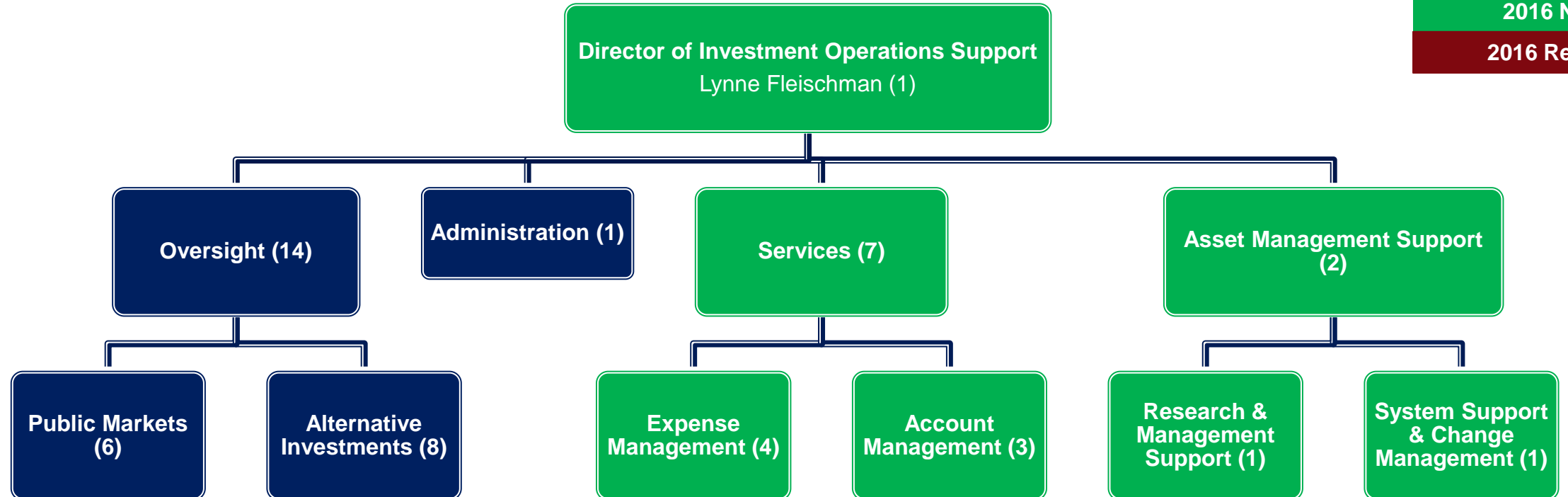
Investment Operations Support – Middle Office Model

Current State Investment Operations Support (25)

Feb 2016 Organization

2016 New

2016 Retired



• IM Reconciliations

- Corporate Actions Domestic
- QED/SSB Reconciliation
- QED Migration
- QED June 30 Migration Reconciliation

- Alternatives transaction recording (Spreadsheets)
- Alternatives Spreadsheet Retirement
- Mkt Value Reconciliation

• Invoice Tracking & Reporting

- IM Fee Verification & Payment (eCFM)
- Expense Manager Maintenance
- Fee Payable Reconciliation

• Terminated Manager Monitoring

- Transition & Rebalance Monitoring
- Compliance Report Resolution

- Special Projects
- Alternatives Cost Project
- Audit Requests
- Third Party Requests
- SSB Issue Resolution

- Policy & Procedures
- Controls
- Project Management
- Systems Support



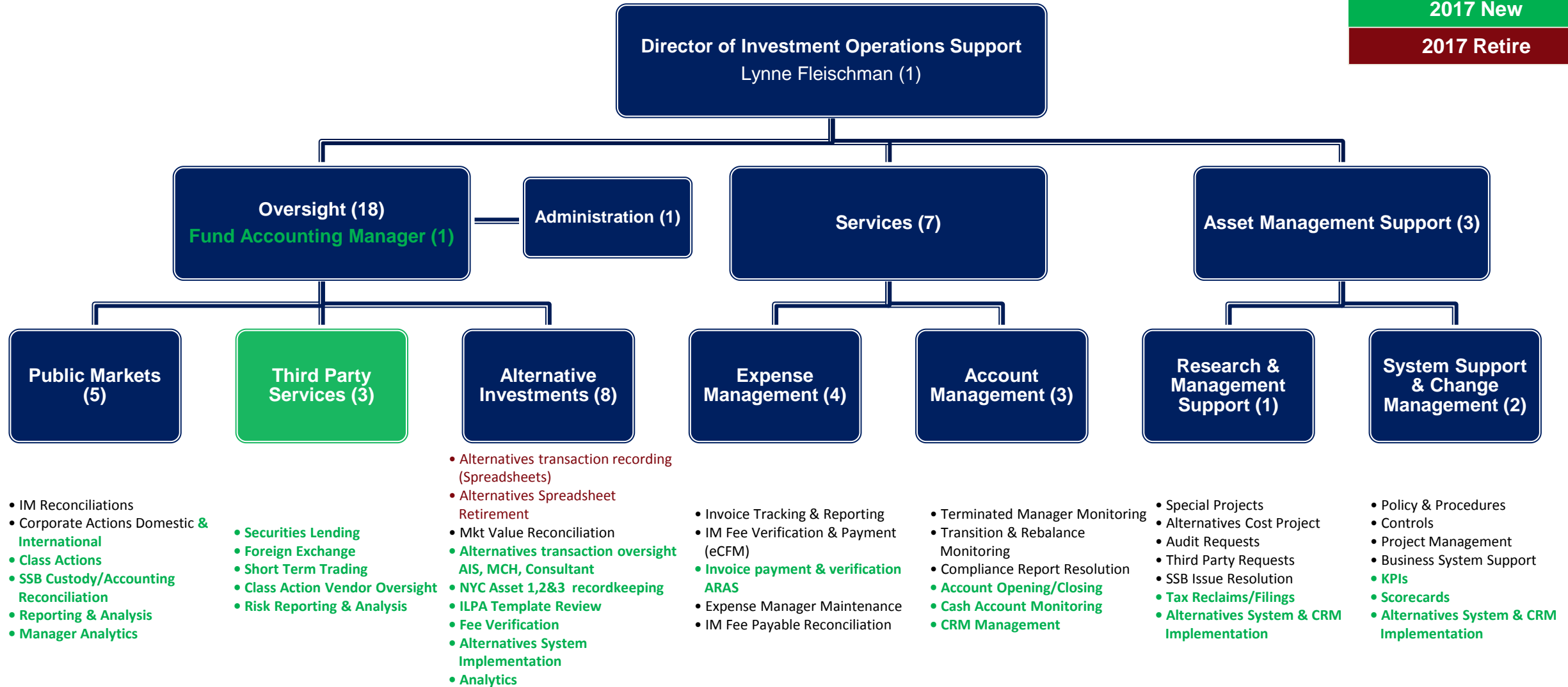
Planned Future State - Investment Operations Support

Planned Future State Investment Operations Support (29)

Q1 2017 Organization

2017 New

2017 Retire



VSF ASSET ALLOCATION

VSF Recommended Asset Allocation

- ❑ The Variable Supplement Funds (VSFs) have:
 - ✓ Relatively small asset balances.
 - ✓ Large annual cash outflows – Need Liquidity.

- ❑ Recommend Passive Portfolio that mimics 65/35 ACWI-IMI/Barclays Agg:
 - ✓ Passive accounts provide:
 - ❖ Greater Equity Diversification.
 - ❖ Greater Liquidity.
 - ❖ Mitigates timing risk of active managers.
 - ❖ Lower Fees.

