



Office of the Under Secretary of Defense (Comptroller)
Office of the Deputy Chief Financial Officer



CFO of the Future

Changing CFO capabilities in a world of big data
Universe of Transaction (UoT)

A centralized, standardized CFO function will provide real time insights



CFO Role	Financial Reporting	Compliance / Control	Decision Analytics on Financial Performance	Decision Analytics on Mission Performance
Analytics Performed	<ul style="list-style-type: none"> • Sound transaction processing • Creation of traditional finance reports (e.g., balance sheet) 	<ul style="list-style-type: none"> • Provide assurance on strength of internal controls and risk management processes 	<ul style="list-style-type: none"> • Perform cost management analysis • Provide resources for performance review 	<ul style="list-style-type: none"> • Link cost performance data to related priority mission objectives • Partner on cost and mission analytics
Time	~ Quarterly/Annually	~ Quarterly	~ Monthly or better	~ Daily / Real time / predictive
Data Architecture	<p>Distributed, non-standard</p>	<p>Distributed, standard</p>	<p>Centralized, standard</p>	<p>Centralized, standard, automated</p>
Role of UoT	<ul style="list-style-type: none"> • Disaggregated systems approached on a one-off basis • No enterprise view 	<ul style="list-style-type: none"> • Disaggregated systems • Central "translation" ability via single taxonomy • UoT collecting data from multiple sources 	<ul style="list-style-type: none"> • UoT central host system • UoT leverages existing data linkages to receive specific updates/refreshes 	<ul style="list-style-type: none"> • UoT central host system • Automated feeds for cost & audit • Shared service provider for analytics on financial performance and cost

CFO impact

Lower

Higher

Hype vs. Reality?



“DATA IS THE NEW GOLD”



Concept of data analytics is not new

CFO act of 1990 empowered modern govt. CFOs to create enterprise-wide analysis

Purpose of the modern CFO's office

1. Bring more effective general and financial management practices to the federal government
2. Provide for improvement of accounting systems, financial management practices, and internal controls
- 3. Provide for complete, reliable, and timely data to better finance, manage, and evaluate government programs**

The Year 1990



#1 Song in 1990



#1 Movie in 1990



Technology in 1990.....

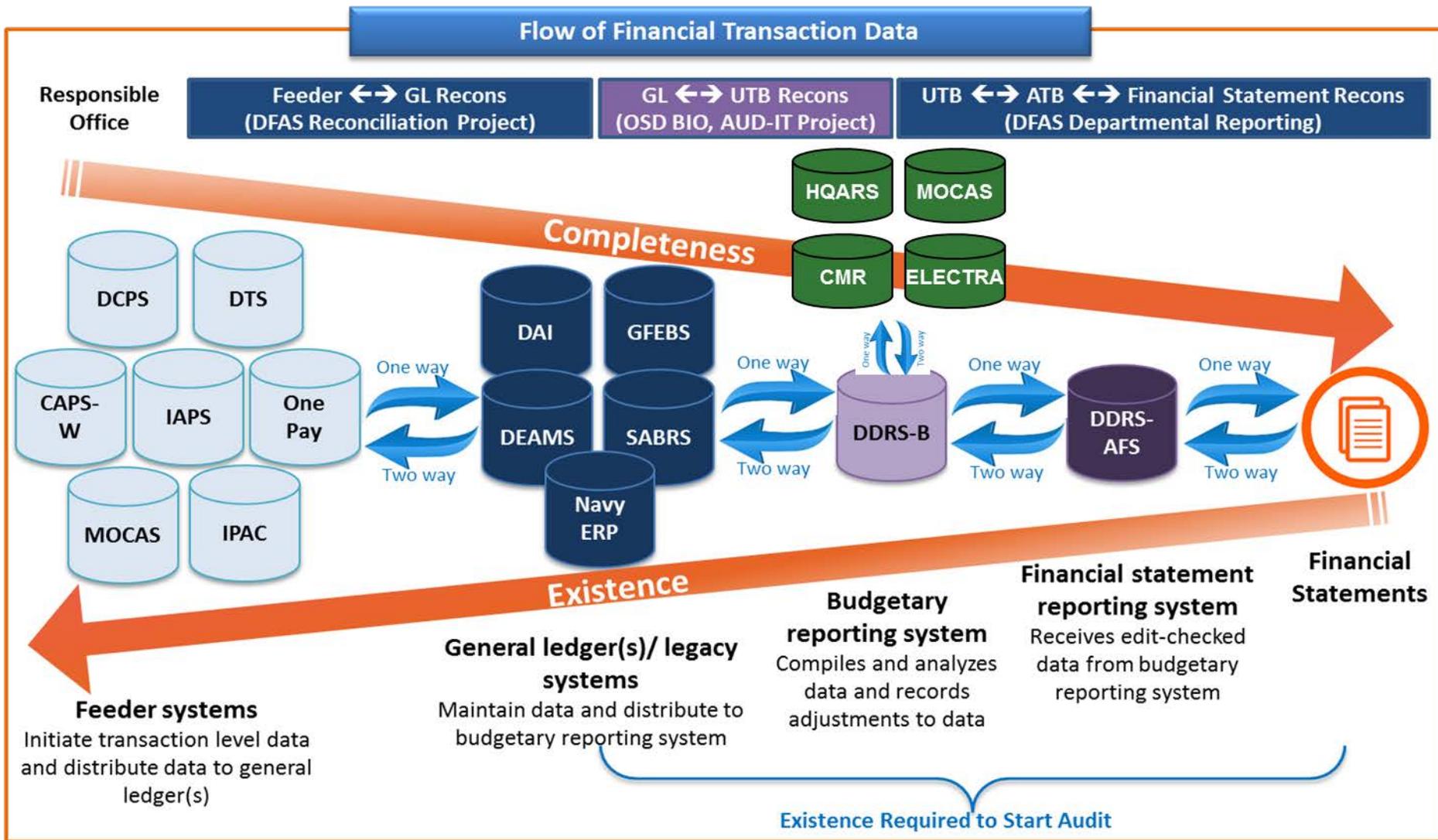


What is different this time?



- Strong demand from leadership
- Audit
- Technology
- We are actually seeing value
 - NFR tracking tool – impacts all
 - UoT – first focus on 4th Estate
 - Cost management – impacts all

UoT Existence and Completeness Flow



Data architecture: Centralized architecture will enable better governance and automation



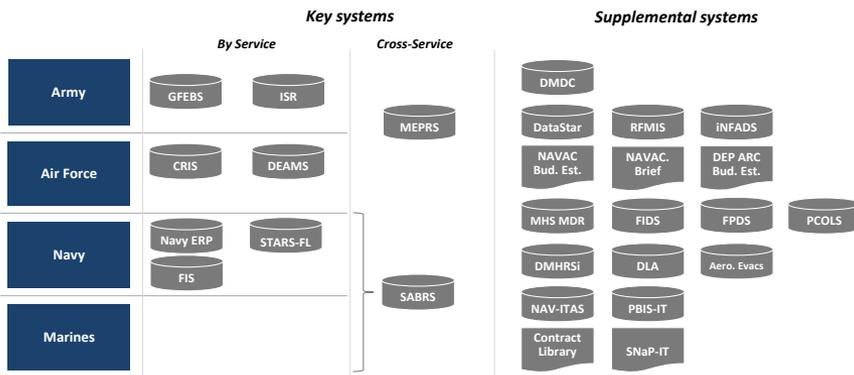
Current DOD system landscape

- Distributed data and management environment
- Some integration, but lacking visibility to full spectrum of DoD data
- Insights limited to single line of business or organization

Future state use of UoT

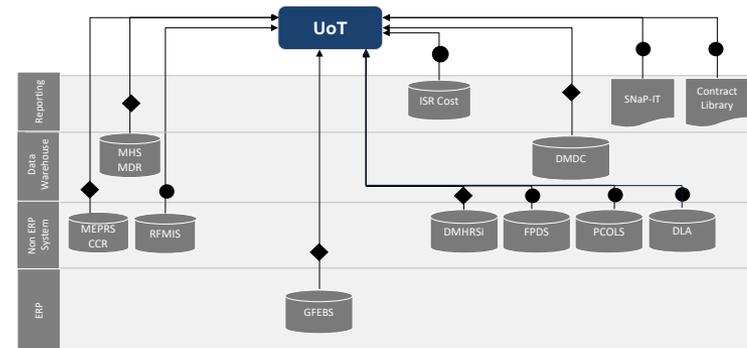
- Retention of current disaggregated system structure
- UoT collects data from multiple sources
- Creation of a "Rosetta Stone" to allow for enterprise-level views

Siloed data

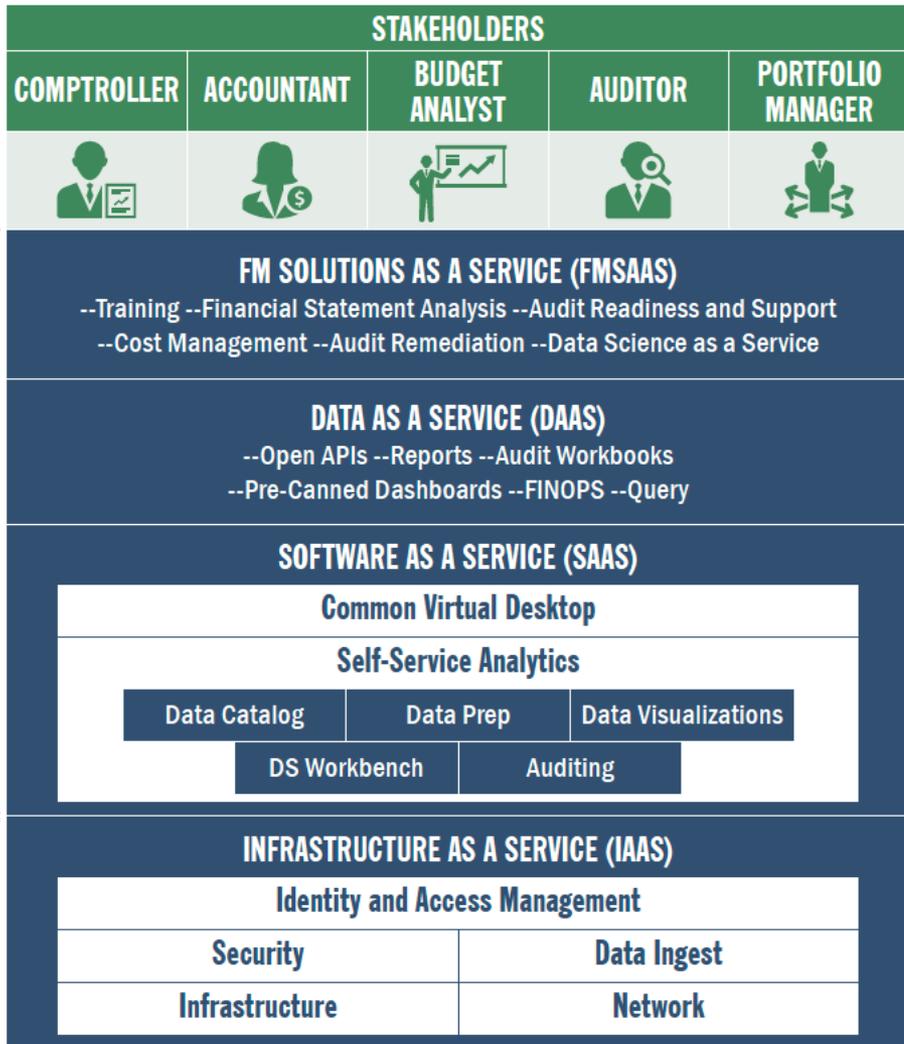


DoD data source system

Enterprise view with UoT



OUSD(C) Business Integration Office is becoming a data shared service provider for 4th Estate UoT



SHARED SERVICE PROVIDER

DATA PLATFORM

- **FMSAAS** – Provides finance and analytics Subject Matter Experts, to solve challenging FM problems
- **DAAS** – Standardizes the data available to the Enterprise for download and exploration. Provides a Single Source of Truth
- **SAAS** – Provides a number of web-based analytics tools to enable a variety of analytic use cases ranging from simple to complex. Truly enables Self-Service Analytics for the Enterprise
- **IAAS** – A flexible, secure, and scalable infrastructure that reduces risk and cost for data management and advanced analytics

Challenges to getting to the CFO of the future and how we overcome them

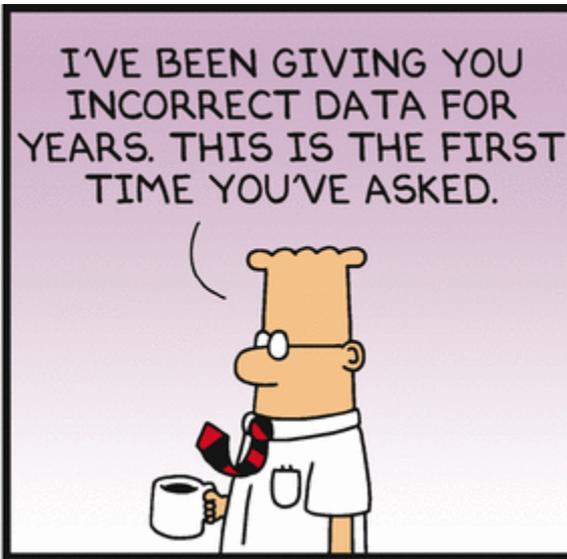


- Distrust of data
- Non-standard data
- Access to data
- Analytical skill sets

Distrust of Data



DilbertCartoonist@gmail.com

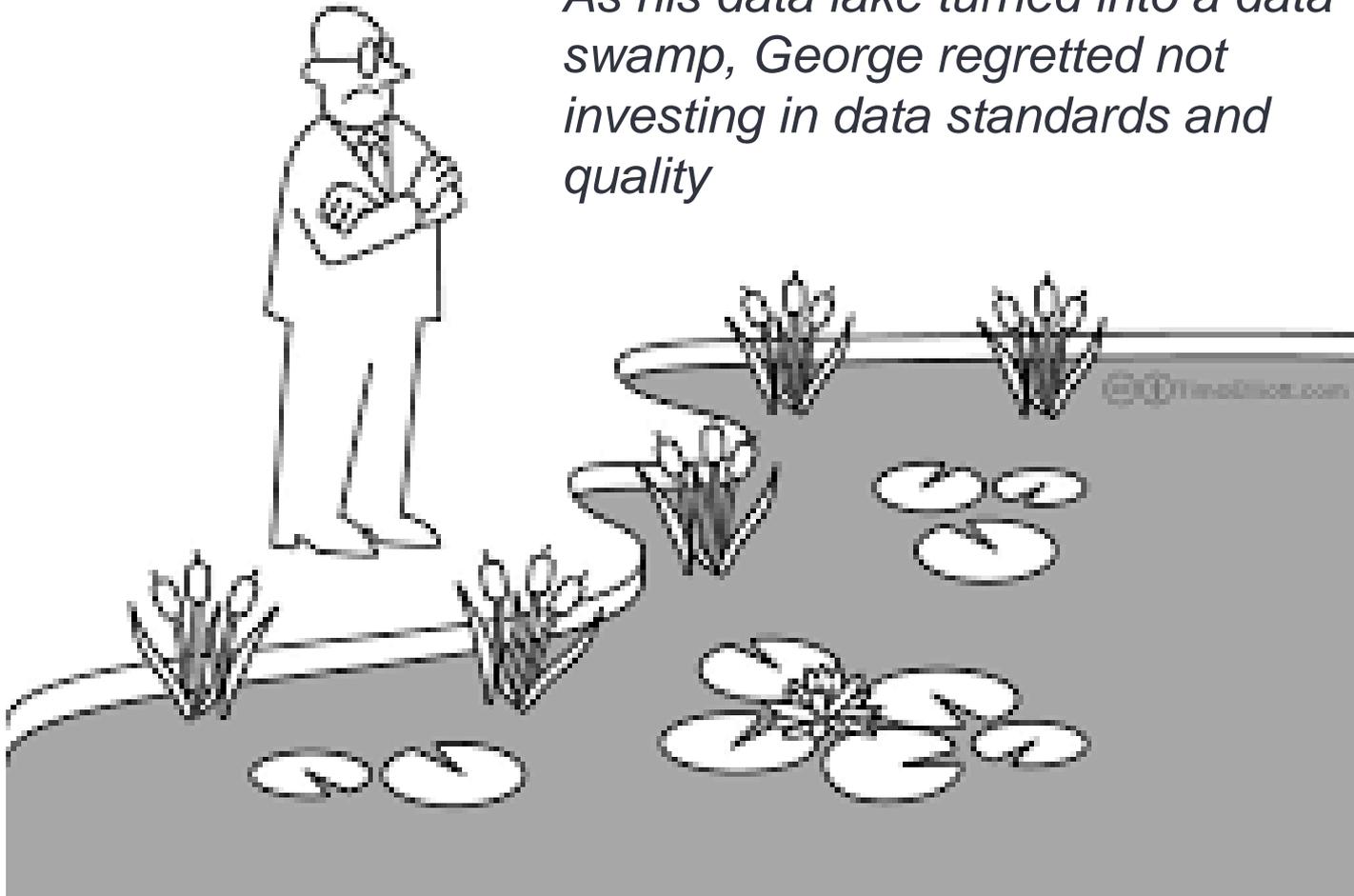


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Non-standard data

As his data lake turned into a data swamp, George regretted not investing in data standards and quality



Data access



Big Data Analytical Skill Sets



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What can we do with data analytics that adds value to you?

Real examples

What makes a good data analysis? **Data should tell a story!**



- What is the question?
- Who is the audience for the question?
- What would you do with the analysis that adds value?
- What data sources have the data you need?
- How frequently do you need the data?
- What would a good visualization look like for a manager/executive and analyst?

Analytics Menu – Not all inclusive



Financial Statements

- Does my GL details tie to my unadjusted trial balance?
- Can I reconcile my GL details to my financial statement line?
- What are my tie point variances?
- Do I have abnormal balances?

Compliance/Audit

- Am I SFIS compliant?
- What are the # of NFRs and CAPs I have?

Property

- What is the cost of my real property by category?
- What is the cost of my custodial compared to others?
- What is the cost of my real property compared to commercial benchmarks?

IT

- What is the cost my IT?
- What are my license costs?
- Am I effectively sourcing my IT software license costs?

Health

- Are we effectively using our medical facilities?
- Are we spending the right amount on each student?

Use Case 1: Reconcile



- Can we trace this?

MDA 2017Q4 Drilldowns

No selections applied

MDA Balance Sheet

Statement to ATB Variance

\$0.00

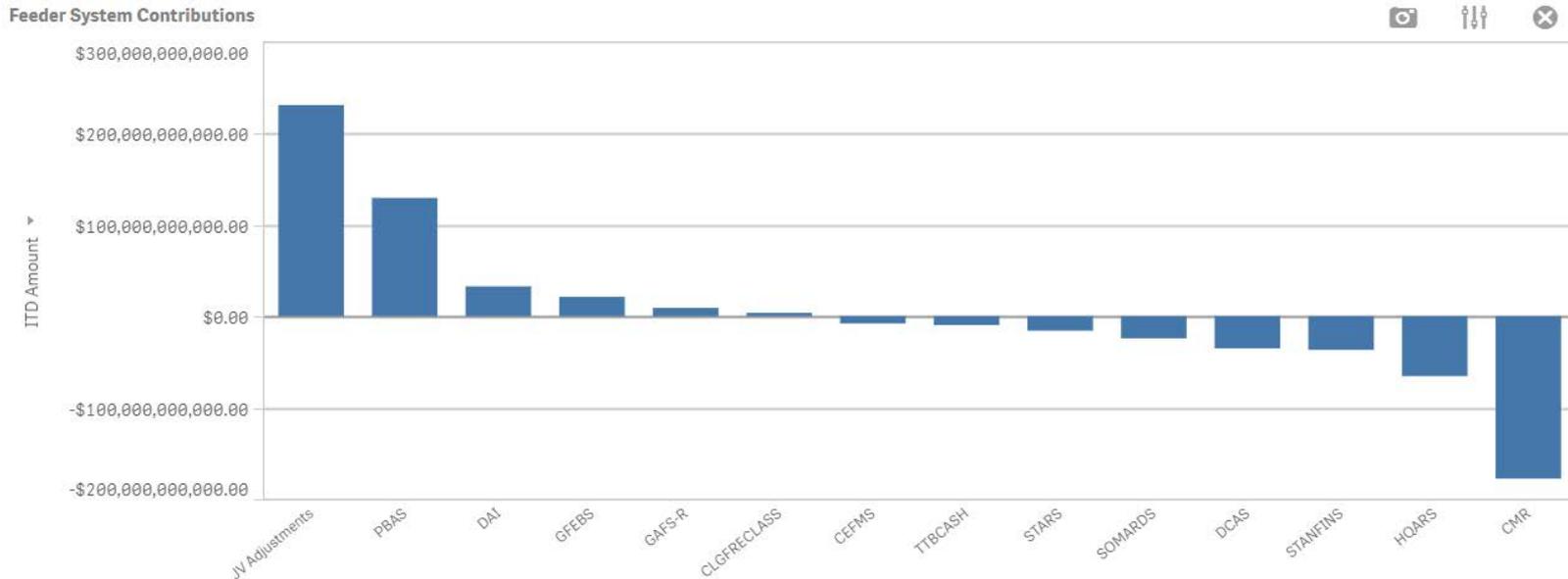
Click to drilldown to AFS TB

LINE	DESCRIPTION	Calculated Amount	DDRS AFS Amount	Variance
Totals		\$44,185,156,138.60	\$44,185,156,138.60	\$0.00
1A1	Fund Balance with Treasury (Note 3)	\$7,430,679,574.17	\$7,430,679,574.17	\$0.00
1A2	Investments (Note 4)	\$0.00	\$0.00	\$0.00
1A3	Accounts Receivable (Note 5)	\$1,374,714.52	\$1,374,714.52	\$0.00
1A4	Other Assets (Note 6)	\$0.00	\$0.00	\$0.00
1B	Cash and Other Monetary Assets (Note 7)	\$0.00	\$0.00	\$0.00
1C	Accounts Receivable, Net (Note 5)	\$4,073,971.98	\$4,073,971.98	\$0.00
1D	Loans Receivable (Note 8)	\$0.00	\$0.00	\$0.00

Use Case 1: Reconcile



- When the following is true?



All of these systems, plus 15,000+ rows of crosswalks support FBWT

Learning from Reconciliation



- We can learn about system issues and drive change through specific problem statements

uot_sglprefix	uot_signedamount	uot_transeffdate	uot_transid	uot_transpostdate
4902	38871.98	20130930	1307072129	20160406

Posting date is almost three years after effective date

fund application	fund master	uot_begfy	uot_endfy	uot_transpostdate
9717180100	9718190100	2018	2019	20171206

Master data changed after posting creates reconciliation issue

supplier	uot_fednonfedind	Uot_signedmount
021-W*** USA *** MAT CTR EUR*****	N	\$ (60,273.50)

Federal vendor rolling up to non federal payables

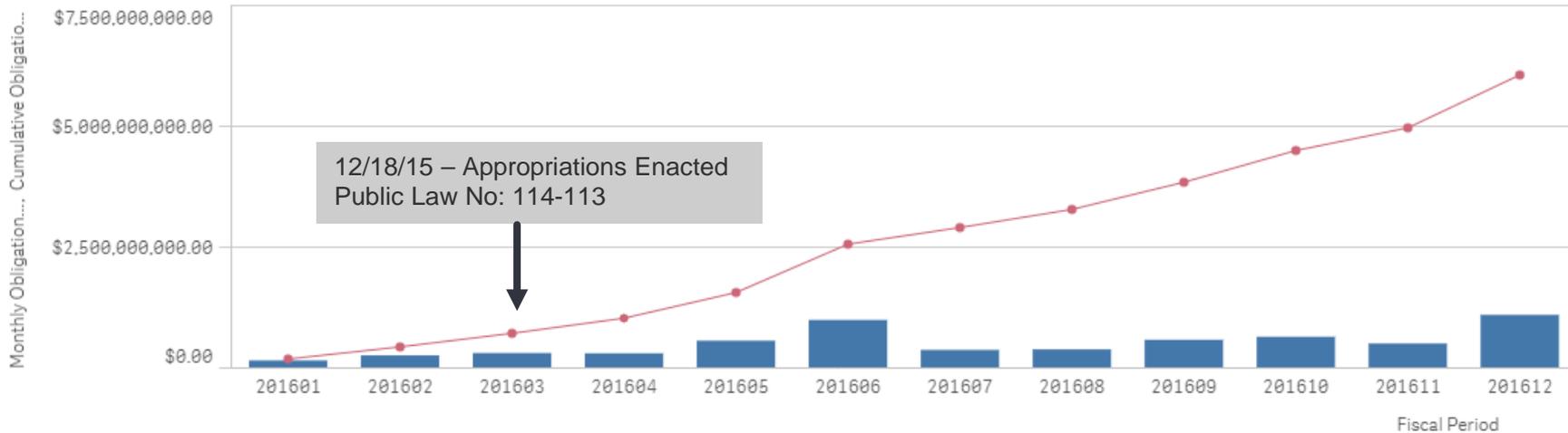
Controls can always be improved, because people will always find a way . . .

Use Case 2: Performance



- Are we getting better? How do we know?

Total Obligations



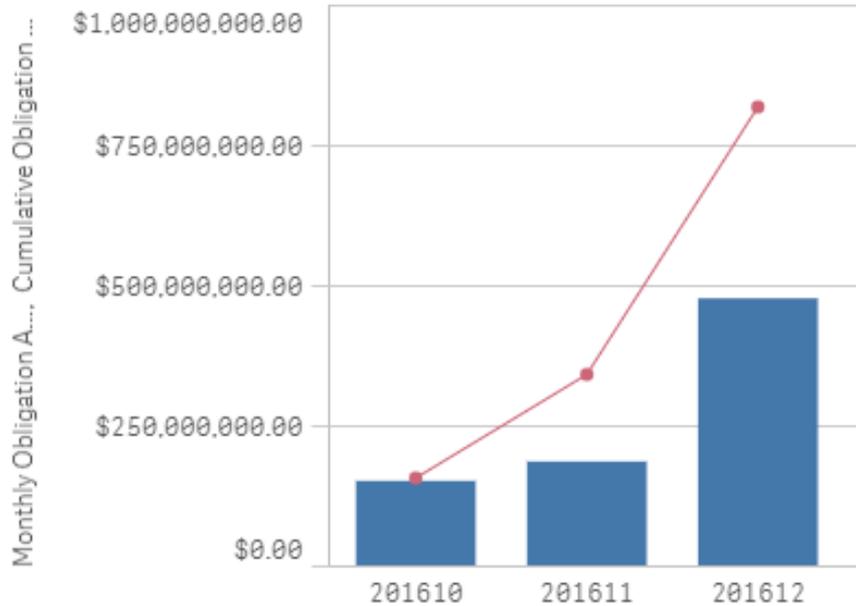
A

What types of obligations were executed in the final month of fiscal year 2017?

Learning from financial metrics



Total Obligations



A

ENTITY obligated **24.29%** of O&M budget in final month.

81.74% of the are contract obligations for information technology and professional services

Several of those obligations are with suppliers who have high dollar sole source thresholds

Behaviors will change when we are able to trend with these details

Example 3: Cost Analysis

Air Force Base A, FY 16



Cost comparison between AFB A, portfolio medians, and commercial reference estimates:

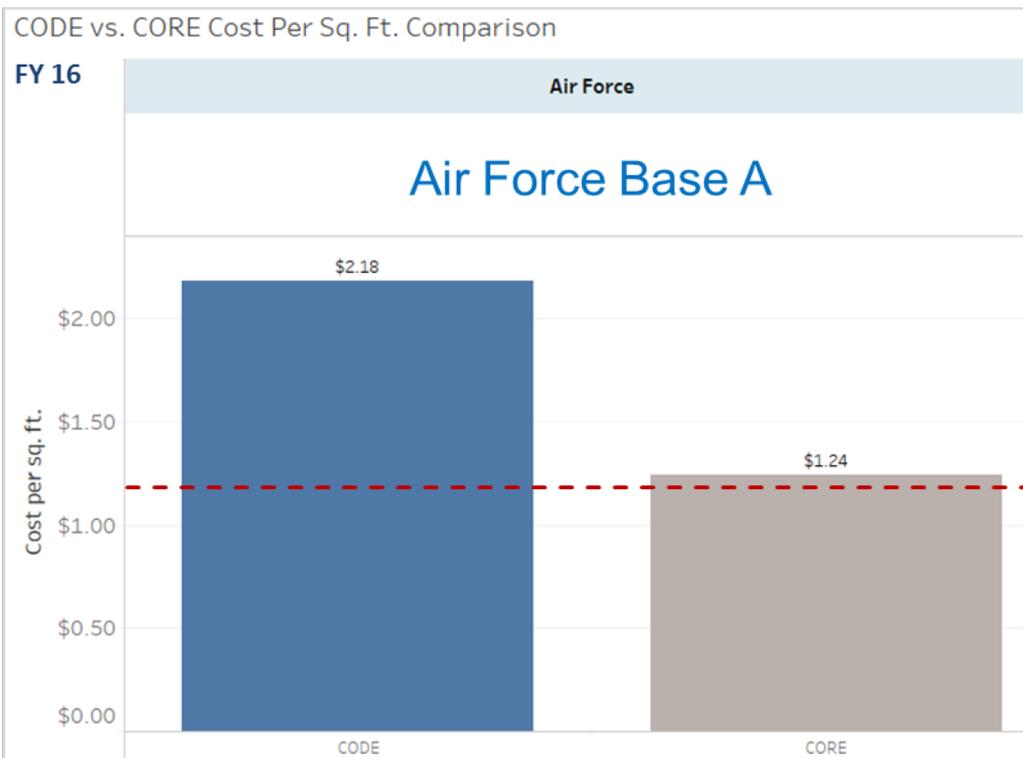
All cost shown in \$/ sq. ft.					Commercial Reference
Product	FY 16 CODE				Air Force Base A Commercial Equivalent (estimate)
	Air Force Base A	Air Force Regional Median	Air Force Median	DoD Median	
Total	22.21	10.33	8.38	7.80	12.42
Custodial	0.79	0.35	0.34	0.33	0.67
Electricity	2.18	1.15	1.10	1.04	1.24
Grounds	0.03	0.03	0.03	0.03	0.13
Natural Gas	0.25	0.18	0.19	0.20	0.31
Pest Control	0.08	0.03	0.03	0.03	0.05
Refuse	0.08	0.08	0.07	0.09	0.10
Restoration and Modernization	2.82	1.76	1.54	0.96	4.72
Road Clearance	-	-	0.01	0.01	0.05
Sewer	0.05	0.08	0.08	0.07	0.27
Sustainment	15.75	6.57	4.92	4.96	4.61
Water	0.18	0.10	0.07	0.08	0.27

Air Force Base's A real property costs in FY 16 were broadly comparable (on a per sq. ft. basis) to portfolio medians; however, cost appeared high in both Electricity and Sustainment

Example cost analysis: Electricity spend at Air Force Base A (I / II)



Electricity cost per square foot comparison vs. CORE benchmarks:



Air Force Base A Cost Analysis:

*Total FY 16 Electricity Cost** ~ \$7.5 Million

Total Square Feet ~ 3.44 Million Square Feet

Cost per Square Foot \$2.18 / Square Foot

Cross Service Regional Median:
\$1.12 / Square Foot

Next step: Review and identify best practices being employed at installations outperforming commercial reference model

- This all means nothing, unless



Local

- Willingness to make reconciliation a habit
- Willingness to change processes



Shared Service

- Willingness to adopt culture of data
- Willingness to take calculated risks



System Level

- Willingness to make system changes
- Willingness to make agency performance a priority