
IT Reporting Modernization

DAEN690-003

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FITARA

The Federal Information Technology Acquisition Reform Act is a legislation passed in 2014 to install a framework for governing the management of IT technology

- Response to several IT challenges
 - Duplicate IT spending (shadow IT)
 - Low understanding of cost and performance of IT spending
 - Lack of visibility into IT spending
 - Inability to benchmark IT performance
- Federal agencies are mandated to provide the Office of Management and Budget with an IT expenditure report which shows how the investments align with the mission goals of the agency

Technology Business Management (TBM)

- Organization composed of CIO, CTO, and CFO members across several different industries
- Goal of TBM is to create and promote the best practices for running IT
- Provides a value management framework (TBM Taxonomy) for IT expenditures with the goal of properly aligning these costs with the business and finances of an organization
- TBM Taxonomy can be leveraged to satisfy the needs of FITARA as well as provide more insight into IT investments

TBM Taxonomy

Standard taxonomy for IT expenditures is used to gain alignment between IT, Business, and Finance units.

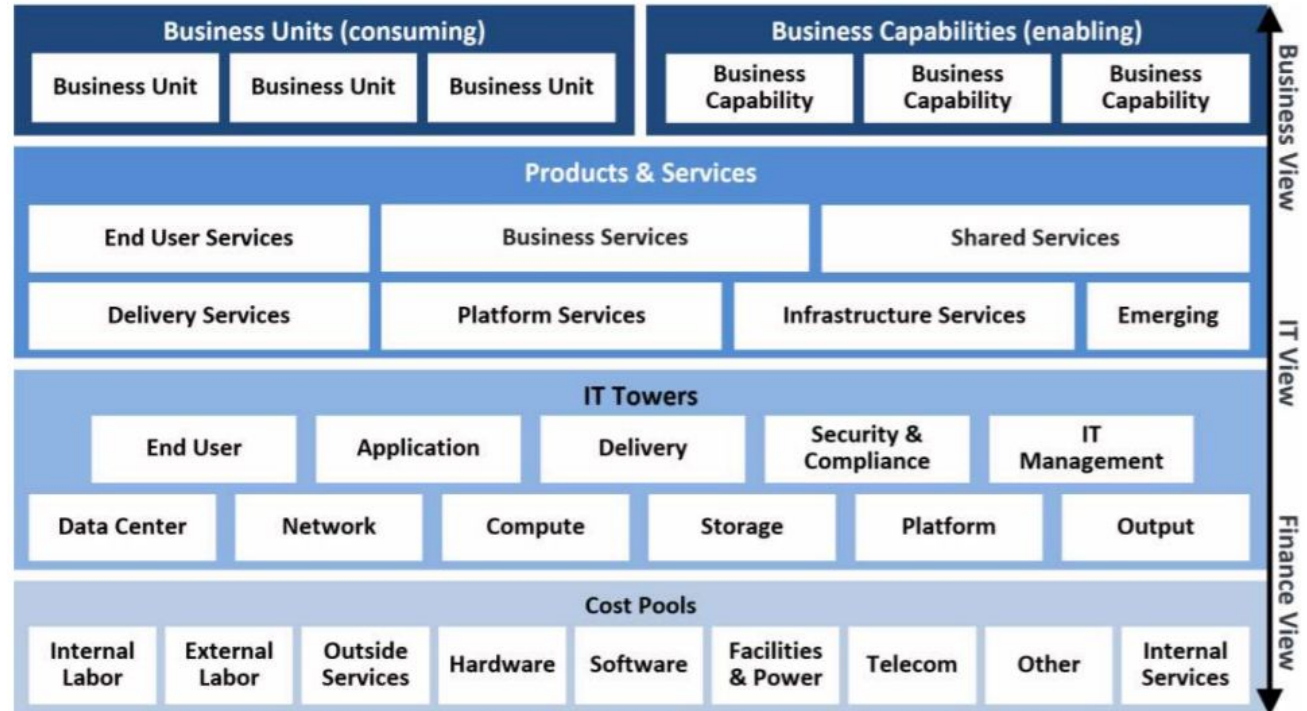


Figure 1: The TBM taxonomy provides a standard set of categories for costs and other metrics

The Current Situation: The “MOAS”

- Single file
- Hand-audited

2019 Service Portfolios (based on TBM ver.3) mapped to FISMA Boundaries										
OMB Capital Planning	TBM Product & Ser	TBM Service (Category)	TBM Service (Name)	Budget Office	Supporting Services (Sub	VOA-TSI Current S	VOA-TSI Current	VOA-TSI Currer	FISMA Systems	Planned Replacements f
Part 1 - Mission	Platform (TV)	Application Services	Content Management	TSI	File Content Transfer	Peach AWS	Aspera		TSI Content Prod. - File Transfer	
			Content Management	TSI	Paid feeds (Video,	Reuters	AP		TSI Content Prod.- MAM	
			Content Management	TSI	Content Ingest tools	Dalet Brio	NCH Software		TSI Content Prod.- MAM	
			Content Management	TSI	Video Editing, News Management-Production	Dalet Plus			TSI Content Prod.- MAM	
			Content Management	TSI	Media Transcoding	Rhonet	Limigito		TSI Content Prod.- MAM	
		Application Services	Content Management	VOA	TV Studio Operation	Vinton Robotics	Control	Audio	N/a (Not on WAN)	
			Content Management	VOA	TV Production Switchers	Sony MVS Series	Broadcast Pix		N/a (Not on WAN)	
			Content Management	VOA	Content Ingest tools	Streambox	Pesa C22	Teradek Core	VOA SBS - TVProduction	
			Content Management	VOA	TV Production Switchers	Newtek Tricaster			VOA SBS - TVMC & Broadcast Core	
			Content Management	VOA	TV Automation	Harris			VOA SBS - TVMC & Broadc	GVG iTX, Dell Isilon,
			Content Management	VOA	TV Automation	Harris			VOA SBS - TVMC & Broadc	GVG iTX, Dell Isilon,

Problem Definition

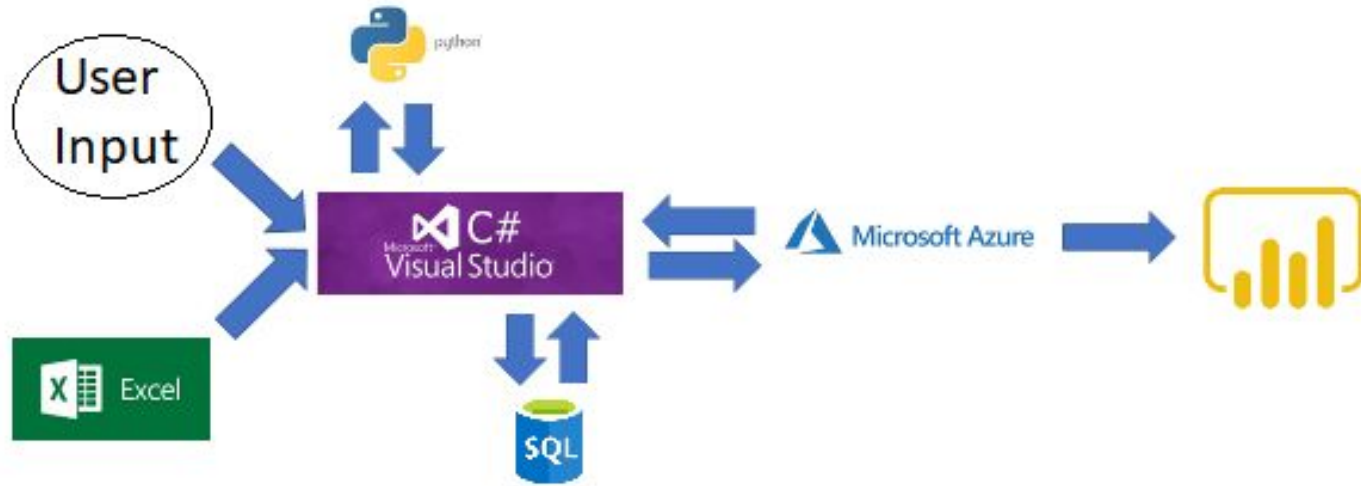
As a user,

I want to ingest and aggregate investment expenditure reports

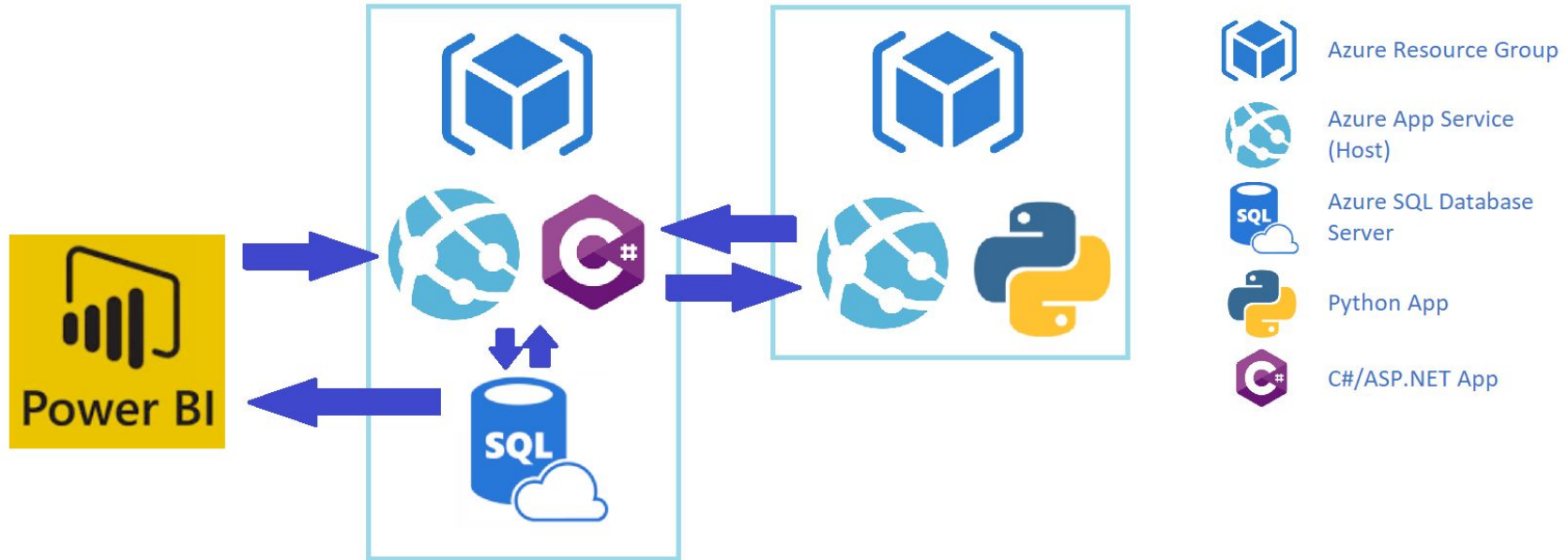
So that I can monitor IT expenditures through automation, create dashboard visualizations of necessary information, and identify solution areas of redundancy and noncompliance while maintaining status quo processes for lower level expense reporting

Design Goals

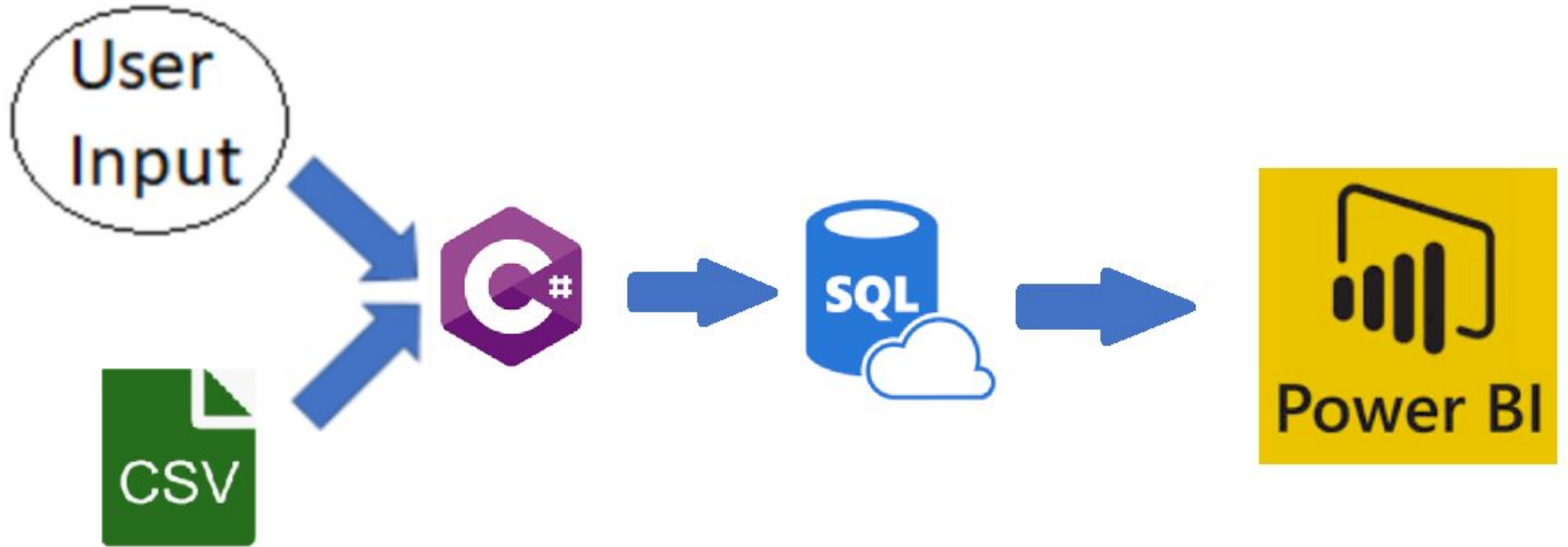
- Indexed data storage
- Functionality classifier
- Suggest existing alternatives
- Increased accessibility
- Automated dashboard
- Built-in dashboard filtering
- User & Approver permissions



Technical Architecture (Final Design)



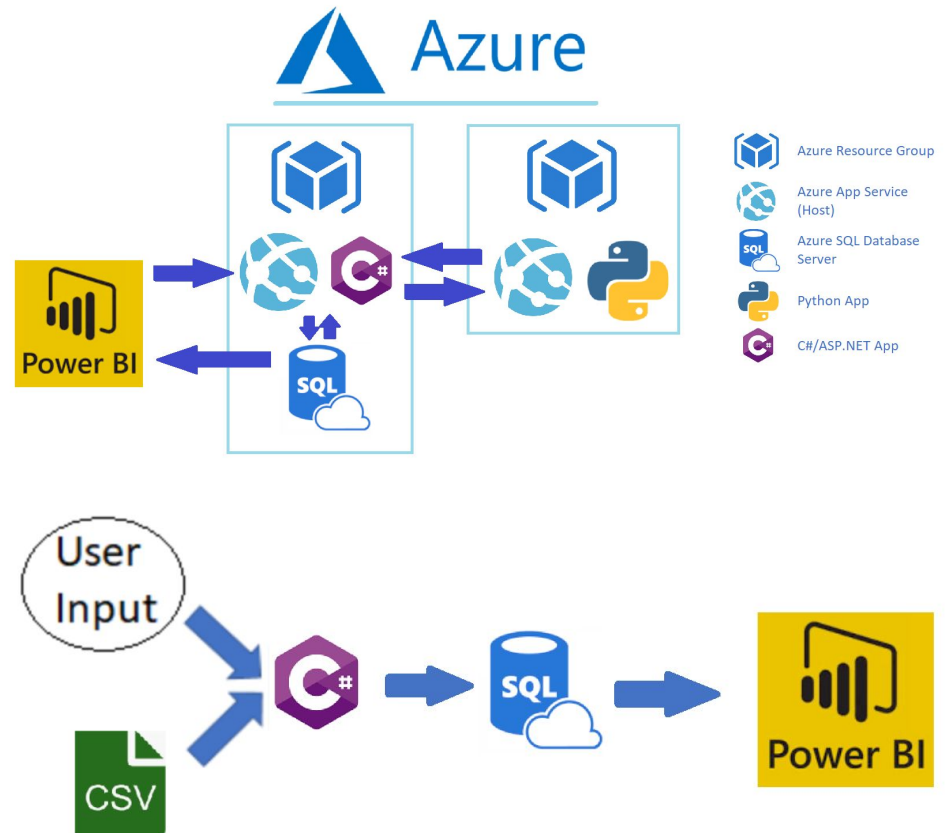
Data Flow



Final Design

- Indexed data storage
- Functionality classifier
- Increased accessibility
- Built-in dashboard filtering
- Provide existing alternatives
- Automated dashboard
- User & Approver permissions

- Classification metadata
- Learning classifier



IT Investments

Search:

Filter

Browse... No file selected.

Upload

Export

[Submit New IT Investment](#)

Entity	IT Function	Technology Name	Units	Unit Price	Total Cost	Approval Date		
VOA	Transcoding	Omneon Media Grid	1	166.00	166.00	2016-04-22	Edit	Delete
Budget	Web Server Software	CASPER	1	168.00	168.00	2015-12-19	Edit	Delete
Facilities	Server Storage - Direct Attached Storage (DAS)	Unified Storage	4	162.00	648.00	2016-10-21	Edit	Delete
Facilities	Broadcast Automation	Harris	5	80.00	400.00	2017-05-01	Edit	Delete
Budget	Accounting	CWT's ETS2	2	25.00	50.00	2015-07-21	Edit	Delete
Budget	Risk Governance	FOIA	1	67.00	67.00	2018-02-07	Edit	Delete
Facilities	Media Arch Network (MAN)	Cloud Prime	20	40.00	800.00	2016-03-14	Edit	Delete

Approve

Omneon Media Grid

Technology Name

Omneon Media Grid

Entry Date

3/31/2019 12:00:00 AM

Description

Cloud storage is a model of computer data storage in which the digital data is stored in logical pools. The physical storage spans multiple servers (sometimes in multiple locations), and the physical environment is typically owned and managed by a hosting company. These cloud storage providers are responsible for keeping the data available and accessible, and the physical environment protected and running. People

IT Tower

Storage

TBM IT Service

Infrastructure Services

TBM Category

Storage Services

TBM Name

File & Object Storage

E-GOV BRM

Finance (Cost Pool)

Hardware

Entity

VOA

IT Function

Transcoding

Business Function

Content Production

Units

1

Unit Price

166.00

Total Cost

166.00

Seats/License

91

Seats Used

18

Purchase Date

04/25/2016

Expiration Date

10/01/2021

Suggested IT Functions

Cloud Storage

Server Storage - Direct Attached Storage (DAS)

Data Quality Management

Existing Potential Alternatives

- Cloud 1
- Cloud 2
- Cloud 3
- Unified Storage
- PIE

Approve

[Back to List](#)

MOCK DATA REVISION PROCESS

2019 Service Portfolios (based on TBM ver.3) mapped to FISMA Boundaries

OMB Capital Planning	TBM Product & Service Portfolio (Type)	TBM Service (Category)	TBM Service (Name)	Budget	Supporting Services (Sub)	VOA-TSI Current	VOA-TSI Current So	VOA-TSI Current	FISMA Systems	Planned Replacements
Part 1 - Mission	Platform (TV)	Application Services	Content Management	TSI	File Content Transfer	Beach AWS	Aspera		TSI Content Prod - File Transfer	
			Content Management	TSI	Paid feeds (Video, Audio, Content Ingest tools	Dalet Brio	NCH Software		TSI Content Prod - MAM	
			Content Management	TSI	Video Editing, News Management-Production	Dalet Plus			TSI Content Prod - MAM	
			Content Management	TSI	Media Transcoding	Rhozet	Limelight		TSI Content Prod - MAM	
		Application Services	Content Management	VOA	TV Studio Operation	Vinton Robotics	Control	Audio	N/A (Not on WAN)	
			Content Management	VOA	TV Production Switchers	Sony MVS Series	Broadcast Pix		N/A (Not on WAN)	
			Content Management	VOA	Content Ingest tools	Broadbent	Pesa C22	Tetradik Core	VOA S85 - TVProduction	
			Content Management	VOA	TV Production Switchers	NewsNet Tricaster			VOA S85 - TVMC & Broadcast Core	
			Content Management	VOA	TV Automation	Harris			VOA S85 - TVMC & Broadcast Core	VOA I7X, Dell Isilon,
			Content Management	VOA	TV Graphics	Chyron/Canis	ORAD TD Control	Chyron (SL)	VOA S85 - TVMC & Broadcast Core	VOA Vantage (L6)
			Content Management	VOA	Video Editing	Avid/SS			VOA S85 - TVProduction	
					Audio Editing, News Management-Production					
							Dalet RSHD			



TBM Name	IT function	E-GOV BRM #	Application/Technology	Price	Unit/License	Unit/License used	Unit/License unused	Total	Description
Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	Reuters	43	43	29	14	1849	
Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	AP	151	78	27	51	11778	
Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	AP Express	169	78	73	5	13182	
Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	ABC1	80	32	32	0	2560	
Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	AFP	76	46	21	15	1106	



Business Function	Finance/Cost	IT Tower	TBM IT Service	TBM Category	TBM Name	IT function	E-GOV BRM #	Application/Technology	Price	Unit/License	Unit/License used	Unit/License unused	Total	Description	Expires
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	Reuters		84	88	12	76	7392		1
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	AP		161	7	4	3	1127		0
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	AP Express		21	11	5	6	231		0
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	ABC1		138	38	4	34	5244		1
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	AFP		153	42	15	27	6426		1
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	APTN		164	96	31	65	15744		0
Content Acquisition Software	Application	Platform Services	Application Services	Content Management	Paid feeds (Video, Audio, Text)	B10.812.576	APTN		72	43	43	0	6760		0

Initial data provided by client

Data fitted to reflect TBM taxonomy and structure

Metrics added which are pertinent for analyzing IT investments

Mock Data Additions and Structure Changes

- Changes to reflect TBM taxonomy structure (IT, Business, and Finance categories)
- Metrics added
 - Price
 - Units/Licenses
 - Units/Licenses used
 - Entry Date
 - Expiration Date
- Additional IT expenditures to diversify and properly reflect a complete IT environment

Application/Technology and IT Function

2019 Service Portfolios (based on TBM ver.3) mapped to FISMA Boundaries

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Part 1 - Mission	Platform (TV)	Application Services	Content Management	TSI	File Content Transfer	Peach AWS	Aspera		TSI Content Prod. - File Transfer		
			Content Management	TSI	Paid feeds (Video, Audio,	Reuters	AP		TSI Content Prod. - MAM		
			Content Management	TSI	Content Ingest tools	Dalet Brio	NCH Software		TSI Content Prod. - MAM		
			Content Management	TSI	Video Editing, News	Dalet Plus			TSI Content Prod. - MAM		
			Content Management	TSI	Media Transcoding	Rhomet	Limigito		TSI Content Prod. - MAM		
		Application Services	Content Management	VOA	TV Studio Operation	Vinton Robotics	Control	Audio	N/a (Not on WAN)		
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			Content Management	VOA	TV Production Switchers	Newtek Tricaster			VOA SBS - TVMC & Broadcast Core		
			Content Management	VOA	TV Automation	Harris			VOA SBS - TVMC & Broadcast Core	GVG ITX, Dell Isilon,	
			Content Management	VOA	TV Graphics	Chyron/Camio	ORAD TD Control	Chyron ISQ	VOA SBS - TVMC & Broadcast Core	GVG Vertigo (CG)	
			Content Management	VOA	Video Editing	Avid/ISIS			VOA SBS - TVProduction		
	Platform (Radio)	Application Services	Content Management	TSI	Audio Editing, News		Dalet RSHD		TSI Content Prod. - MAM		

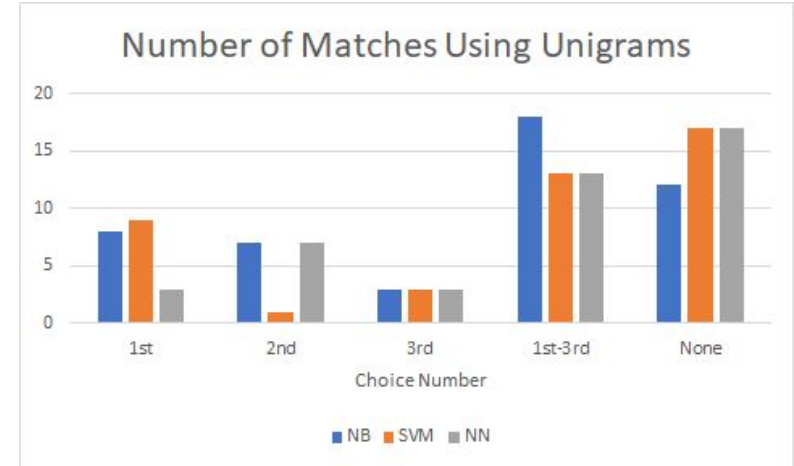
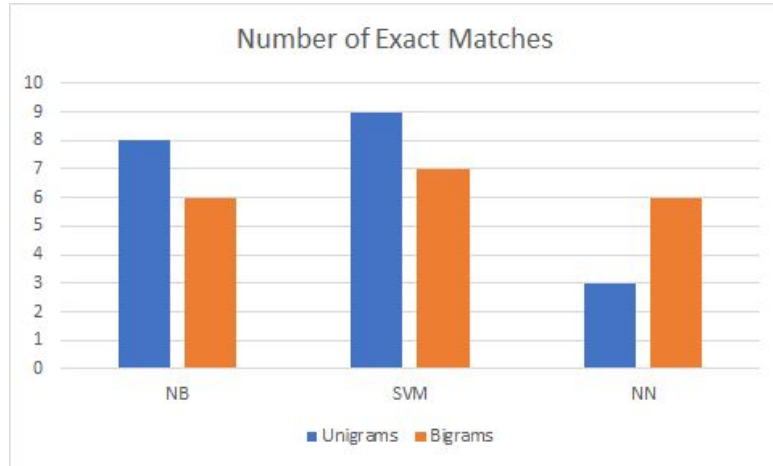


	A	B	C	D	E	F	G	H	I
1	Business Function (LOE)	Finance (Cost Pool)	IT Tower	TBM IT Service	TBM Category	TBM Name	IT function	E-GOV BRM	Application/Technology
2	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	Reuters
3	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	AP
4	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	AP Express
5	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	ABC1
6	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	AFP
7	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	APTN
8	Content Acquisition	Software	Application	Platform Services	Application Services	Search	Video capture	B10.812.577	Dalet Brio
9	Content Acquisition	Software	Application	Business Services	Manufacturing & Delivery	Inventory & Warehousing	Content sharing	B10.812.576	FTP
10	Content Acquisition	Software	Application	Business Services	Manufacturing & Delivery	Inventory & Warehousing	Content sharing	B10.812.576	Peach AWS
11	Content Acquisition	Software	Application	Business Services	Manufacturing & Delivery	Inventory & Warehousing	Content sharing	B10.812.576	DropBox
12	Content Acquisition	Software	Application	Business Services	Manufacturing & Delivery	Service Delivery	Content sharing	B10.812.576	
13	Content Production	Software	Application	Business Services	Manufacturing & Delivery	Product Delivery	Video Editing	B10.812.577	Dalet Plus
14	Content Production	Software	Application	Business Services	Manufacturing & Delivery	Product Delivery	Video Editing	B10.812.577	Final Cut
15	Content Production	Software	Application	Business Services	Manufacturing & Delivery	Product Delivery	Video Editing	B10.812.577	Avid/ISIS
16	Content Production	Software	Application	Business Services	Manufacturing & Delivery	Product Delivery	Video Editing	B10.812.577	Adobe Premier

Classifier – Wikipedia Scrapping and SBA Categories

	A	B	C	D	E
1	Technology	Tech	ActualCategory		
2	VLS.NET	Cloud storage is a model of computer data storage in which the digital data is stored in logical pools. The physical storage spans multiple servers (sometimes	Media Archiving		
3	MS-Office 365	Office 365 is a line of subscription services offered by Microsoft, as part of the Microsoft Office product line. The brand encompasses plans that allow use of	Collaboration		
4	Peach AWS	Amazon Web Services (AWS) is a subsidiary of Amazon that provides on-demand cloud computing platforms to individuals, companies and governments, on a	Content sharing		
5	TACITS	Asset tracking refers to the method of tracking physical assets, either by scanning barcode labels attached to the assets or by using tags using GPS, BLE or RFID	Asset Tracking		
6	Omneon Media Grid	Cloud storage is a model of computer data storage in which the digital data is stored in logical pools. The physical storage spans multiple servers (sometimes	Transcoding		
7	CGI's Momentum	Financial software or financial system software is special application software that records all the financial activity within a business organization. Basic fea	Accounting		
8	CWT's ETS2	Travel Management Companies (TMCs) are organizations that manage organizations' corporate or business travel program. They will often provide an end-us	Accounting		
9	OPM's USA Staffing	A human resources management system (HRMS) or human resources information system (HRIS) is a form of human resources (HR) software that combines a	Recruitment		
10	Ikegami Camera Con	The camera control unit (CCU) is typically part of a live television broadcast chain. It is responsible for powering the professional video camera, handling signa	Television Studio		
11	Vinton Robotics	A camera dolly is a wheeled cart or similar device used in filmmaking and television production to create smooth horizontal camera movements. The camera	Television Studio		
12	Abekas Tria	A video server is a computer-based device that is dedicated to delivering video. Video servers are used in a number of applications, and often have additional	Television Studio		
13	Dalet Brio	In broadcasting, playout is a term for the transmission of radio or TV channels from the broadcaster into terrestrial networks that delivers the content to the	Video capture		
14	OPM's EOPF	A human resources management system (HRMS) or human resources information system (HRIS) is a form of human resources (HR) software that combines a	Employee Records		
15	MS-CRM (Office 365	Microsoft Dynamics CRM is a customer relationship management software package developed by Microsoft. The product focuses mainly on sales, marketing,	Public Affaris, FM & TV Affiliates		
16	BBG's Non-citizen DE	A background check or background investigation is the process of looking up and compiling criminal records, commercial records, and financial records of an	Recruitment		
17	OPM's EQIP	A background check or background investigation is the process of looking up and compiling criminal records, commercial records, and financial records of an	Background Check		
18	Follet Destiny	A document management system (DMS) is a system (based on computer programs in the case of the management of digital documents) used to track, manag	Media Archiving		
19	Volocity	Computer security, cybersecurity or information technology security (IT security) is the protection of computer systems from theft or damage to their hardwa	Risk Monitoring		
20	Dalet Plus	In broadcasting, playout is a term for the transmission of radio or TV channels from the broadcaster into terrestrial networks that delivers the content to the	Video Editing		
21	Scheduall	Broadcast automation incorporates the use of broadcast programming technology to automate broadcasting operations. Used either at a broadcast networ	Resource Planning and Allocation		
22	Sony Video Switcher	A vision mixer (also called video switcher, video mixer or production switcher) is a device used to select between several different video sources and, in some	Television Studio		
23	Cisco ISE	Information security management (ISM) describes controls that an organization needs to implement to ensure that it is sensibly protecting the confidentiality	Wide Area Network (WAN)		
24	DIVA/Front Porch	Content storage management (CSM) is a technique for the evolution of traditional media archive technology used by media companies and content owners to	Media Archiving		
25	NVision Router	A router is a networking device that forwards data packets between computer networks. Routers perform the traffic directing functions on the Internet. Dat	Recording Studio		
26	BBG's Casetracking	A background check or background investigation is the process of looking up and compiling criminal records, commercial records, and financial records of an	Background Check		

Initial Results - Unigrams/Bigrams and 1st - 3rd Choices



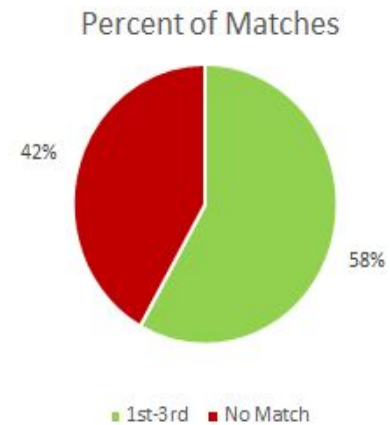
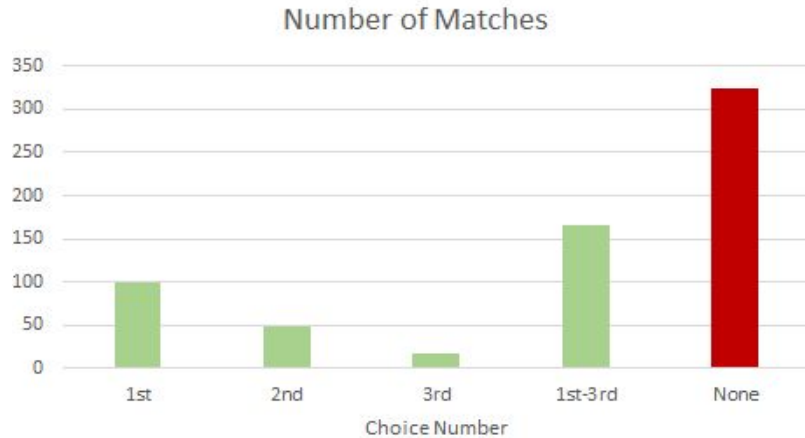
SBA Data - User Inputed Descriptions and SBA Service Area

Software Product Name	Service Area	Description
195 Keyscan System Access Control Management Software	Security and Compliance	Provides a single software solution that power Keyscan access control systems, regardless of size or complexity.
196 Kingsway Adapter - Visual Studio plugin	Application Development Technology	The SSIS Integration Toolkit for Salesforce is the most feature rich data integration solution for Salesforce on the market. With a meticulously designed software that leverages the power of the SSIS ETL engine for a familiar development
197 LastPass	Security and Compliance	Credential management tool that integrates with web browsers (i.e., Edge) and enables convenience and security.
198 LexisNexis Parent Program	Information and Data Management	A corporation providing computer-assisted legal research as well as business research and risk management services.
199 Liferay	Application Development Technology	Liferay is an open source and free enterprise portal, which is mainly used to enable corporate extranet and intranet. It is also described as a web application framework or content management framework.
200 LinkedIn (Mobile Application)	Collaboration and Productivity	Online social network to connect and stay in touch with professional relationships.
201 Loan Origination Program	Enterprise Application	Systems designed to increase consistency and reduce technology costs throughout each phase of the mortgage, home equity, consumer and business loan origination process.
202 Local Administrator Password Solution	Security and Compliance	Local Administrator Password Solution (LAPS) provides management of local account passwords of domain joined computers.
203 Logentries	Management and Monitoring	Provides log management and analytics.
204 Logitech Webcam Software	Collaboration and Productivity	Logitech Webcam Software lets you capture your own photos and videos (720p/1080p mode with some cameras), adjust your camera settings, activate motion detection, and use face-tracking with your preferred video-calling software.
205 Lyft (Mobile Application)	Collaboration and Productivity	Mobile app to request a ride and get picked up by a nearby community driver who'll take transport riders to their desired destination.
206 Master Trak Plus	Information and Data Management	A powerful 32 bit client / server Records Management Tracking Software System designed to give Central Records Libraries better control over their file movements and inventory.
207 Matrox Graphics Software (remote only)	Collaboration and Productivity	Provide desktop management capabilities to improve the user experience with multi-monitor desktops hosted virtually using Microsoft RDP or Citrix ICA protocols. Remote PowerDesk and Remote PowerSpace provide users of remote plat
208 McAfee Base Agent	Security and Compliance	An antivirus program.
209 McAfee Endpoint Security Platform	Security and Compliance	McAfee VirusScan is an antivirus program created and maintained by McAfee.
210 McAfee Virus Scan	Security and Compliance	McAfee VirusScan is an antivirus program created and maintained by McAfee.
211 McAfee Virus Scan Enterprise	Security and Compliance	McAfee VirusScan is an antivirus program created and maintained by McAfee.
212 McAfee VirusScan (Enterprise)	Security and Compliance	An antivirus program.
213 MegaRAID Storage Manager	Platforms and Storage	MegaRAID Storage Manager software enables you to configure, monitor, and maintain storage configurations on LSI SAS controllers.
214 Messenger (Mobile Application)	Collaboration and Productivity	Instantly connect with the people in your contact list.
215 Microfocus COBOL	Application Development Technology	It enables developers, analysts and executives to achieve a deeper understanding of their application portfolio providing both business and technical insight.
216 Microsoft SQL Server 2014 Client Tools	Information and Data Management	SQL Server 2014 is relational database management system (RDBMS) designed for the enterprise environment.
217 Microsoft .NET Framework	Application Development Technology	A software framework that runs primarily on Microsoft Windows. It includes a large class library named Framework Class Library and provides language interoperability across several programming languages.
218 Microsoft Access	Information and Data Management	Microsoft Access, also known as Microsoft Office Access, is a database management system from Microsoft that combines a relational database engine with a graphical user interface and software-development tools.
219 Microsoft Access Database Engine	Information and Data Management	Microsoft Access Database Engine 2010 Redistributable (64-bit) enables the transfer of data between existing Microsoft Office files.
220 Microsoft Application Error Reporting	Management and Monitoring	Microsoft Application Error Reporting is a crash reporting technology. Windows Error Reporting collects and offers to send post-error debug information (a memory dump) using the Internet to the developer of an application that crashes
221 Microsoft Authenticator (Mobile Application)	Security and Compliance	Provides an extra layer of protection when you sign in, often referred to as two-step verification or multi-factor authentication.
222 Microsoft Azure Information Protection Viewer	Collaboration and Productivity	Open and use protected files such as PDF, text files, images and any other file format that has a .pfx extension. View your permissions, and print or save the file without protection - if permission allows.
223 Microsoft Configuration Manager Client	Management and Monitoring	Windows product that enables administrators to manage the deployment and security of devices and applications across an enterprise.
224 Microsoft Core XML Services (MSXML)	Application Development Technology	Microsoft Extensible Markup Language (XML) Core Services (MSXML) enables users to build XML-based applications that follow the World Wide Web Consortium (W3C) XML standards.
225 Microsoft Excel	Collaboration and Productivity	A spreadsheet that features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications.
226 Microsoft Excel (Mobile Application)	Collaboration and Productivity	Enables mobile device to use MS Office products on mobile devices.
227 Microsoft Exchange Server 2010 (Enterprise)	Collaboration and Productivity	A mail server and calendaring server that runs exclusively on Windows Server operating systems.
228 Microsoft Exchange Server 2013 (Enterprise)	Collaboration and Productivity	A mail server and calendaring server that runs exclusively on Windows Server operating systems.
229 Microsoft Flow	Collaboration and Productivity	A cloud-based software tool that allows employees to create and automate workflows across multiple applications and services without the need for developer help.
230 Microsoft InfoPath 2013	Information and Data Management	Microsoft InfoPath for electronic forms; InfoPath Forms Services will be included in the next on-premises release of SharePoint Server 2016, as well as being fully supported in Office 365 until further notice.
231 Microsoft Internet Explorer	Collaboration and Productivity	A series of graphical web browsers developed by Microsoft and included in the Microsoft Windows line of operating systems, starting in 1995. It was first released as part of the add-on package Plus! for Windows 95 that year.
232 Microsoft Internet Information Services (IIS)	Application Development Technology	Microsoft Internet Information Services (IIS) is a web server for Windows that provides a platform for the development and deployment of dynamic Web applications and websites. This product is included as an optional component of Wi
233 Microsoft LAPS	Security and Compliance	LAPS provides the ability - via Group Policy - to randomize the password for a local admin account on a remote system joined to the domain.

Classifying Using SBA Data

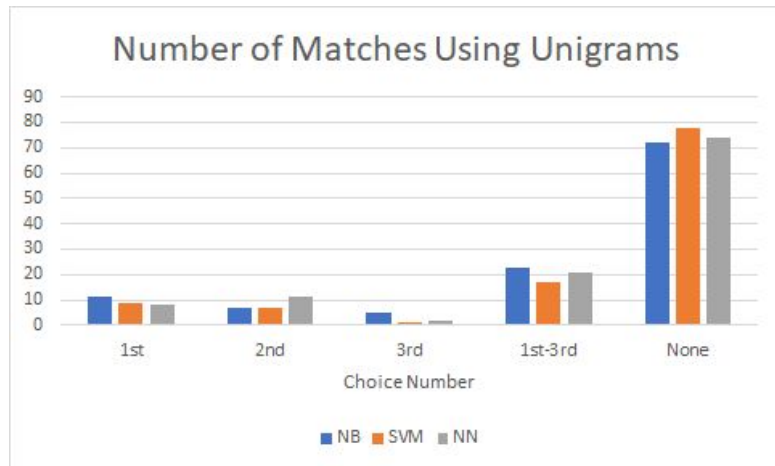
Exact Match

Hand Audit



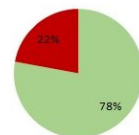
Classifying VOA data with SBA IT Function

Exact Match



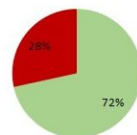
Hand Audit

Naive Bayes Using Unigrams



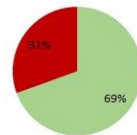
1st-3rd No Match

SVM Using Unigrams



1st-3rd No Match

Neural Network Using Unigrams



1st-3rd No Match

	A	B	C	D	E	F	G	H	I
1	Business Function (LOE)	Finance (Cost Pool)	IT Tower	TBM IT Service	TBM Category	TBM Name	IT function	E-GOV BRM	Application/Technology
2	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	Reuters
3	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	AP
4	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	AP Express
5	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	ABC1
6	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	AFP
7	Content Acquisition	Software	Application	Platform Services	Application Services	Content Management	Multimedia	B10.812.576	APTN
8	Content Acquisition	Software	Application	Platform Services	Application Services	Search	Video capture	B10.812.577	Dalet Brio

Dashboard - TBM Cost Analysis Dashboard 4.0

- Shows aggregate costs based on years and categories selected
- Allows C-Level Executives to gain immediate insight into spending
- Standardized drop boxes on the left side
- Only having TBM business layer (among 3 layers) and its subcategories

TBM Cost Analysis Dashboard

Year
Multiple select...

Quarter
All

Month
All

EntityName
All

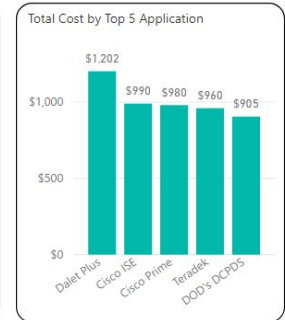
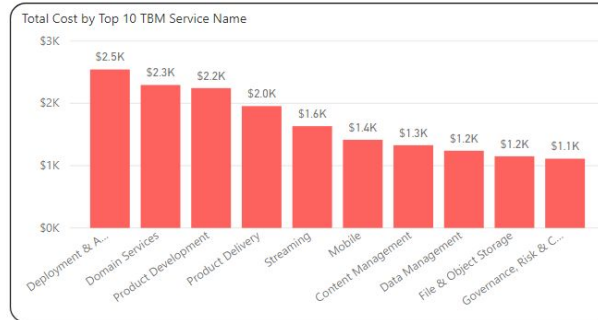
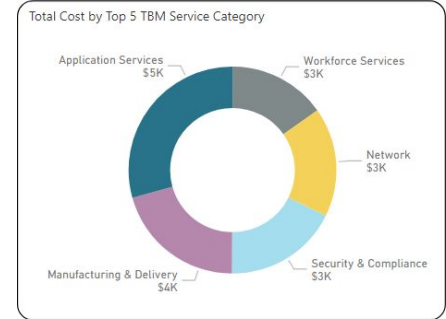
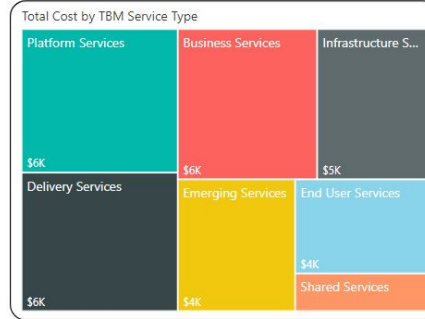
TBM Service
All

TBM Category
All

TBM Name
All

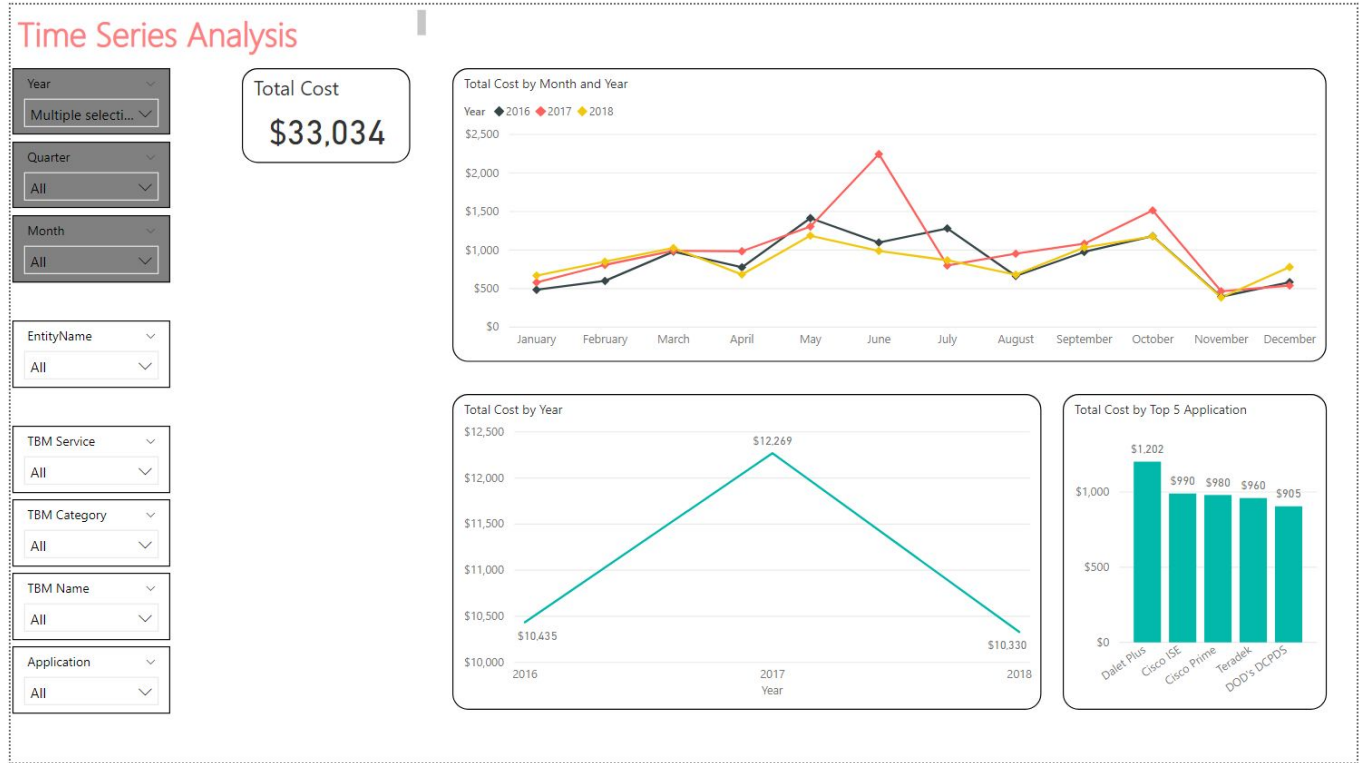
Application
All

Total Cost
\$33,034



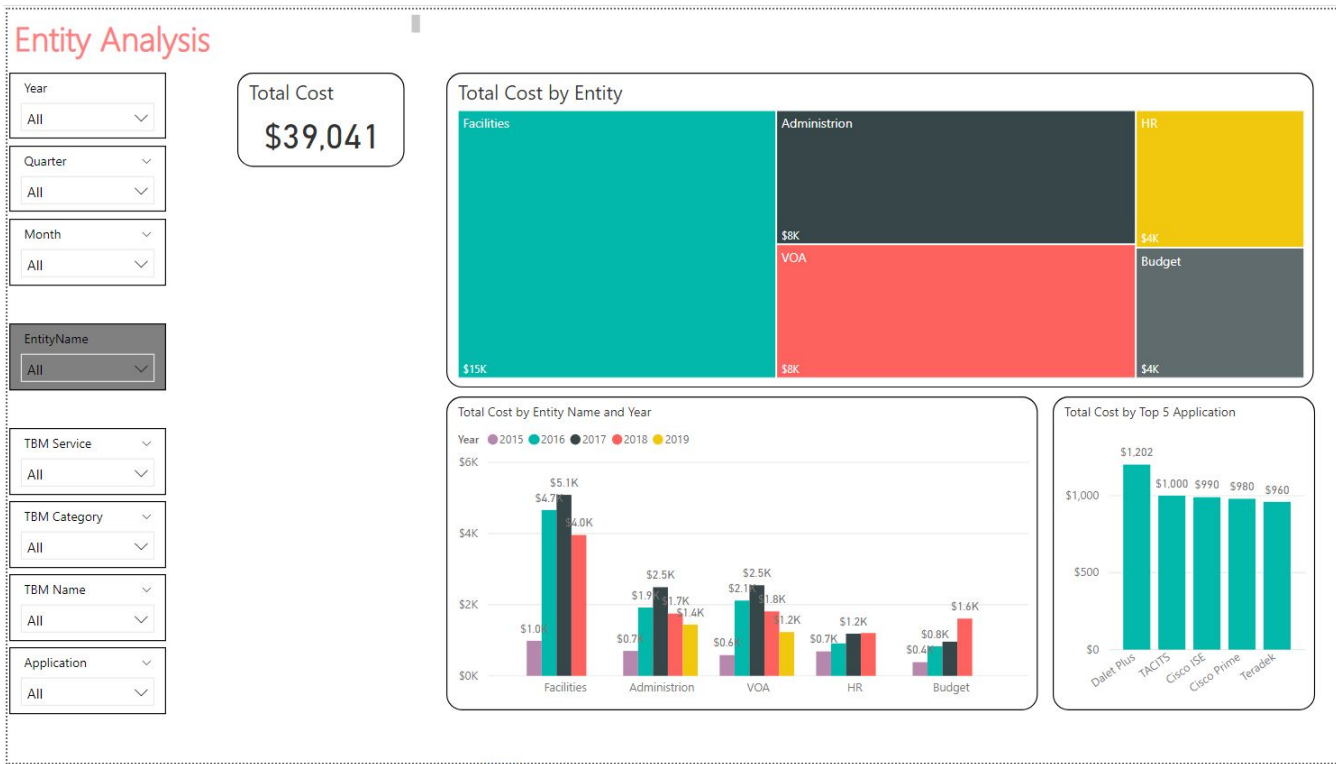
Dashboard - Time Series Analysis 4.0

- Standardized drop boxes on the left side
- Easy to see monthly trend and yearly trend of IT expenditure



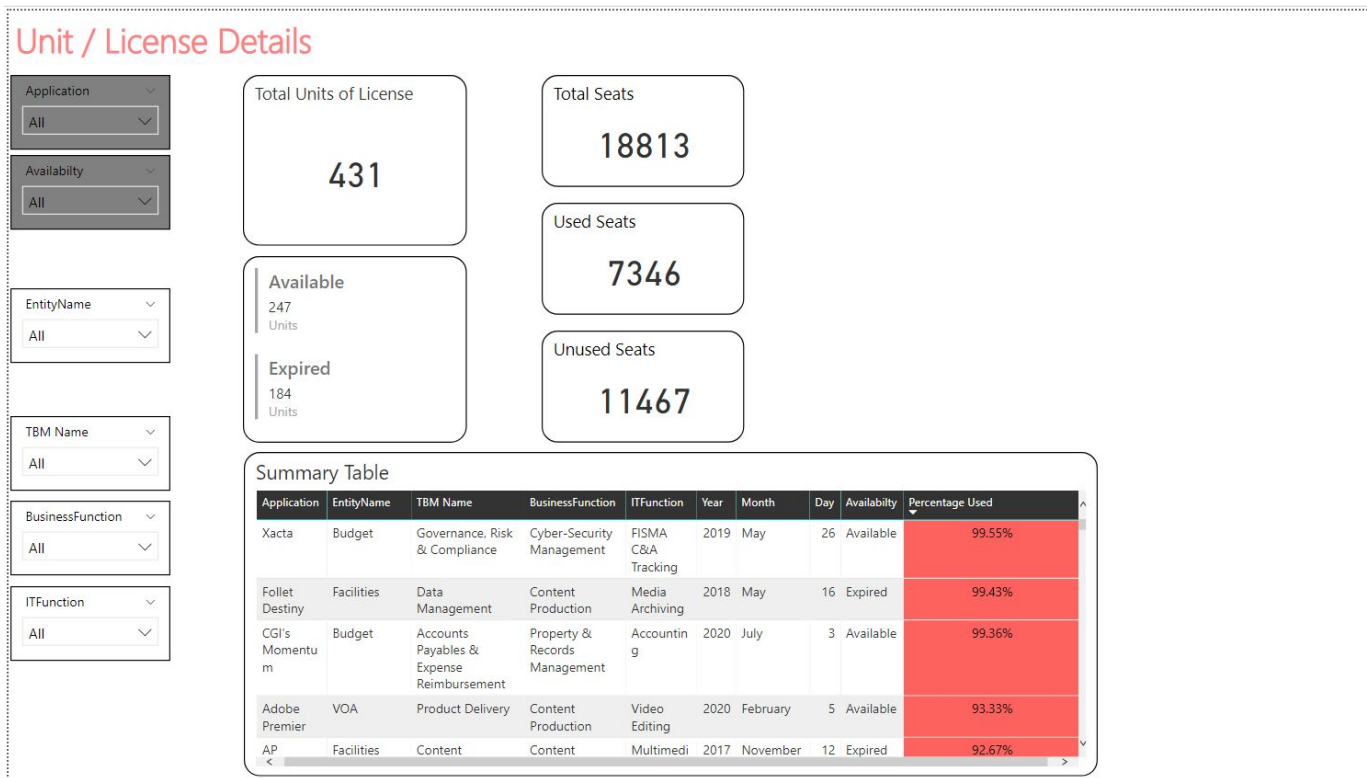
Dashboard - Entity Analysis 4.0

- Standardized drop boxes on the left side
- Groups IT Expenditures by division



Dashboard - Unit / License Detail 4.0

- Able to check Availability (or expiration) of IT application
- Units of license, Seats, Percentage of used seats
- Easy to see the usage of IT applications



Dashboard - Shadow IT Detection

- Comprehensive look at expenses by IT function since many technologies are associated with multiple IT functions
- Look for multiple technologies that perform the same function

Shadow IT Detection

Computer Classified IT Function? ...

Risk Monitoring ▼ **1,964.00**

See tech where computer classified IT function was the: Total

☒ First Choice
☒ Second Choice
☐ Third Choice

Application	UnitPrice	Units	Total	User Provide IT Function	Top Choice Level
FireEye	148.00	1	148.00	Defensive Tools	First Choice
Nessus	54.00	4	216.00	Risk Monitoring	First Choice
Voilecity	80.00	10	800.00	Risk Monitoring	Second Choice
Xacta	160.00	5	800.00	FISMA C&A Tracking	Second Choice

Deselect tech that appears to be incorrectly classified

☐ Select all
☒ FireEye
☒ Nessus
☒ Voilecity
☒ Xacta
☐ Xtec

Our Solution: Experience the Live Demo

[Live Demo](#)

Summary

- Our Solution Addresses key issues related to Redundant Spending, Centralized Storage, and Real-Time Visualizations
- Enables Greater Visibility and easier Reporting for FITARA Compliance
- Long Term Vision Includes Developing Enterprise Resource Planning System to Optimize Planning, Procurement, and Reporting

Future Work

- Admin access:
 - App Security
 - Users & Approvers
 - Input-based dashboarding
- Indexed and updatable TBM taxonomy
- Applying learning mechanic to TBM taxonomy
- Web App - Classifier communication (inefficient / insecure)
- Data and Dashboard Expanded to cover
 - Data Center Consolidation
 - IT Portfolio Review Savings
 - Incremental Development