	Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130	State of West Virginia Centralized Request for Proposals Info Technology

Proc Folder: 1006716 **Doc Description:** IT Financial Management (ITFM) System RFP **Proc Type:** Central Master Agreement			**Reason for Modification:**
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2022-02-28	2022-03-24 13:30	CRFP 0231 OOT2200000001	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

03/23/22 11:01:36
WV Purchasing Division

Pricing Proposal by Apptio Corporation

RFQ No: CRFP OOT22*01
Buyer: Jessica Hovanec
Bid Opening Date: 3/24/2022
Bid Opening Time: 1:30 pm

Edit My Account

Apptio Corporation Email: snoyes@apptio.com | Phone Number: 6179015848

Account Information | Addresses & Contacts | Users

Headquarters Information

Headquarters Legal Name Apptio Corporation	**Headquarters Account Code** VS0000039905	**Taxpayer ID Number** 261175252
Taxpayer ID Number Type EIN	**1099 Reportable** Yes	**Franchise Account** No
Headquarters Web Address www.apptio.com		

REQUEST FOR PROPOSAL (Response)

WV Office of Technology (WVOT) RFP OOT22*01

	Department of Administration **Purchasing Division** **2019 Washington Street East** **Post Office Box 50130** **Charleston, WV 25305-0130**	**State of West Virginia** **Centralized Request for Proposals** **Info Technology**

Proc Folder: 1006716	**Reason for Modification:**
Doc Description: IT Financial Management (ITFM) System RFP	
Proc Type: Central Master Agreement	

Date Issued	Solicitation Closes	Solicitation No	Version
2022-02-28	2022-03-24 13:30	CRFP 0231 OOT2200000001	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

REQUEST FOR PROPOSAL (Response)

WV Office of Technology (WVOT) RFP OOT22*01

Edit My Account

Apptio Corporation Email: snoyes@apptio.com | Phone Number: 6179015848 | Vendor Status: Active

Account Information | Addresses & Contacts | Users | Commodities | Service Areas

Headquarters Information

Headquarters Legal Name Apptio Corporation	**Headquarters Account Code** VS0000039905	**Taxpayer ID Number** 261175252
Taxpayer ID Number Type EIN	**1099 Reportable** Yes	**Franchise Account** No
Headquarters Web Address www.apptio.com		

Apptio Corporation is pleased to present a Public Sector Bill of IT and Cost Transparency solution proposal for the State of West Virginia's IT Financial Management requirements. The proposed solution will allow the State of West Virginia to better recover costs, manage demand, deliver insight including cost transparency for Labor, IT Assets and IT Contracts. Furthermore, it will empower the State of West Virginia with better defensible billing in terms everyone can understand.

Core outcomes deploying the Apptio solution are as follows:

• Improve cash flow with built-in payment and dispute mechanisms – Establish trust through transparency to encourage fast, complete payment; accept payment on open disputes with automated adjustments to next month's bill based on resolution terms.

• Reduce doubt and dispute with detailed, self-service cost visibility – Automate invoice delivery via email; allow consumers to drill through cost and consumption details; and deliver targeted insights with role-based dashboards and reports.

• Maximize traceability and simplify compliance – Allow consumers to submit payment from multiple funding sources, tracking the granular allocation trail of every dollar; leverage purpose-built views to inform and expedite audits; and satisfy mandated reporting requirements quickly and easily.

• Drive a smarter internal economy for IT services – Raise awareness and shared accountability around costs; use strategic pricing to encourage adoption or discontinuation of specific technologies; and provide tiered service options to prevent overconsumption.

• Boost accuracy and predictability – Deliver consistent monthly bills to delight consumers, control variance, and reduce the size and impact of true-ups.

Highlights of core capabilities are as follows:

- Automated Data Import – RPA functionality to eliminate manual hand-crafting of data
- Technical Business Management & Other Best Practice Public Sector Allocation Methodologies
- Service P&Ls & Audit Views
- Support for Consumer Payment Across Multiple Funding Sources
- Dispute & Approval Workflows
- Automatic Invoices & Billing Adjustments
- Rollup of Hierarchies
- Role-based Dashboards & Reports
- Intuitive Pro-forma Invoice Templates
- Granular Funds Tracking

Apptio can deliver through a procurement vehicle through NASPO Cloud Contract as follows:

PARTICIPATING ADDENDUM
NASPO VALUEPOINT
Software Value Added Reseller (SVAR)
Administered by the State of Arizona (hereinafter "Lead State")

MASTER AGREEMENT
SHI International Corporation
Master Agreement No: ADSPO16-130651
(hereinafter "Contractor")

And

State of West Virginia
(hereinafter "Participating State/Entity")
Master Agreement No: CMA 0212 LAR20

Apptio can also deliver via the SHI contract vehicle as follows:

REQUEST FOR PROPOSAL (Response)

WV Office of Technology (WVOT) RFP OOT22*01

NASPO ValuePoint

PARTICIPATING ADDENDUM

CLOUD SOLUTIONS 2016-2026

Led by the State of Utah

Master Agreement #: AR2488

Contractor: **SHI INTERNATIONAL CORP.**

Participating Entity: **STATE OF UTAH**

If desired, Apptio has already agreed to 50 state terms and conditions using the SHI NASPO Cloud Solutions contract. Therefore, the vehicle can be leveraged and used "As Is" and/or added with State of West Virginia terms and conditions. This allows Apptio to agree to terms and conditions as part of our response and "As Amended" with State of West Virginia amendments.

Please feel free to reach out to me with any questions and/or concerns.

Kind Regards,

Shawn M. Noyes

Shawn Noyes
Area Director
Apptio Corporation
snoyes@apptio.com
6179013848

REQUEST FOR PROPOSAL (Response)

WV Office of Technology (WVOT) RFP OOT22*01

Table of Contents

REQUEST FOR PROPOSAL (Response)

WV Office of Technology (WVOT) RFP OOT22*01

Table of Contents for Attachments

Name	Description	Attachment
Apptio TBM for the Public Sector	An automated TBM solution enables public sector organizations to realize the value of IT financial transparency and clearly demonstrate the impact of IT investments. In addition, Apptio provides a Bill of IT to your constituent agencies.	A
Service Description Cost Transparency Foundation	Statement of Work for Cost Transparency	B
Service Description Bill of IT	Statement of Work ApptioOne Billing	C
Service Description Apptio Targetprocess	Statement of Work - Workflow, Invoice Dispute Workflow, TimeSheets, Invoice Incident Workflow	D
Apptio TBM Studio	Apptio TBM Studio, with RPA functionality, is built to manage the business of technology and includes everything you need to transform raw data into actionable analytics for your entire organization. Apptio TBM Studio is designed to be familiar to Excel users with a common ribbon-based toolset and a drag-and-drop design surface requiring no specialized skills like database administration or software development expertise. Automation over hand-crafting.	E
Apptio Datalink	Easily automate the ingestion of data from virtually any source system, such as SAP, Oracle, Amazon Web Services, and ServiceNow, through our library of intelligent connectors. Schedule connectors to pull data - such as month-end close - on a regular basis, RPA functionality for automated mapping, and receive alerts and notifications when connectors complete an upload.	F
ApptioOne Billing Datasheet	ApptioOne Billing. IT bills are calculated using your service catalogue, service rates, and business consumption data. Institute showback or chargeback knowing the numbers you use will be understood and agreed to by the business.	G
Apptio Cost Transparency Foundation	Cost Transparency Foundation: Provide financial transparency of IT costs across Accounts, Cost Pools, and IT Towers, Vendors, and Projects. Automate and operationalize monthly cost analysis and reporting of spend against budget.	H
Technical Architecture Solution	Draft Solutions architecture for State of West Virginia	I
Sample Solutions Architecture	Sample Solutions document from another State	J
6 Best Practices for Allocating IT Costs for the Public Sector	Cost allocation is an integral part of Technology Business Management (TBM), a category of software that brings the best practices of financial and performance management to the complex environment of IT. The ATUM Taxonomy is also included in this section.	K
State of West Virginia Documents for Signature	Required State of West Virginia signed documents	L

SECTION 4: PROJECT SPECIFICATIONS

4.1. Background and Current Operating Environment:

The West Virginia Office of Technology (WVOT), an agency within the Department of Administration, and the led by the Chief Information Officer, supports Executive Branch agencies' technical needs, provides assistance in the design and management of information systems, and develops an organized approach to information resource management, as well as provides other Telecommunications, Central Mailing, and licensing to State entities.

The WVOT currently uses multiple disparate systems to manage its IT services rate setting, budgeting, and chargeback activities.

The purpose of this RFP is to contract with a Vendor to obtain a cloud-based IT Financial Management (ITFM) system that will be utilized by the WVOT and its supported state agencies, as described in West Virginia Code §5A-6 and §5A-7 et seq.

4.2. Project Goals and Mandatory Requirements:

This solicitation is intended to obtain a Vendor that will provide its approach and methodology to providing the service or solving the problem described by meeting the goals/objectives identified below. The Vendor's response should include any information about how the proposed approach is superior or inferior to other possible approaches, outline project deliverables, and provide supporting documentation.

Vendor should describe its approach and methodology to providing the service or solving the problem described by meeting the goals/objectives identified below. Vendor's response should include any information about how the proposed approach is superior or inferior to other possible approaches.

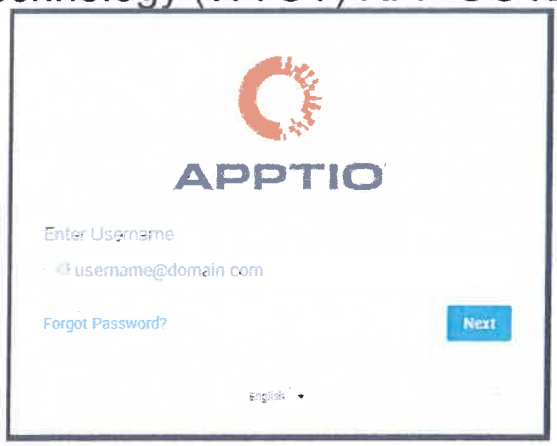
4.2.1. Goals and Objectives –

The WVOT is seeking an Information Technology Financial Management (ITFM) System to improve visibility into the WVOT's service catalog; obtain a major reduction in labor-intensive billing and cost allocation activities; improve inventory management; obtain flexible financial reporting functionality by users; transition, to the maximum extent possible, to a paperless accounts receivable; and seamlessly interface with existing data systems. The project goals and objectives are listed below.

4.2.1.1 Planning and Design - Phase 1

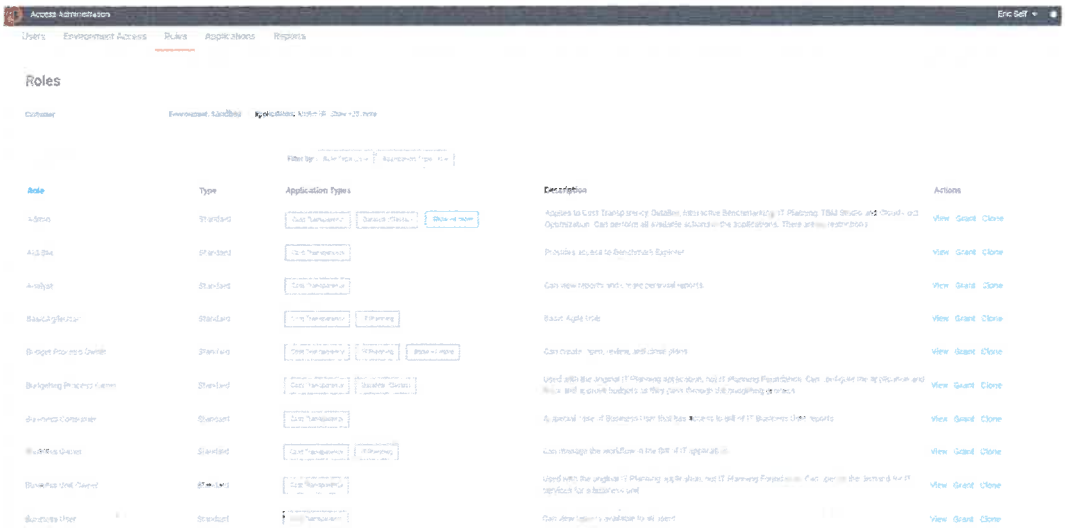
4.2.1.1.1 The WVOT desires the ability to set up multiple subagency accounts under a main Agency account. Additionally, the WVOT desires a way to distribute costs down to a Sub-Agency level within the system that would be able to be rolled into the main Agency for dashboard and financial reporting purposes. Please describe your solution's ability to meet or exceed this goal.

Frontdoor is Apptio's authentication and authorization service. It is used to manage user identity and access to Apptio applications. Frontdoor is a multi-tenant service. Therefore, Frontdoor must identify each user who attempts to log in to Apptio. The identity of the user can be established using a customer managed Identity Provider (IdP), or by using local user accounts created in the Access Administration page. Login screenshot provided below.



4.2.1.1.2 The WVOT desires the ability to set up role-based access. The WVOT also desires an administrative role that will allow WVOT staff to control agency access, modify and create tables, and add data elements as needed. Please describe your solution's ability to meet or exceed this goal.

Apptio's Access Administration provides out of the box role definitions that control access to development and staging environments as well as Apptio's TBM Studio interface where the creation, modification, deletion and configuration of tables and reports occurs. In addition, customized roles can be defined that further define access based upon a company's specific role-based access needs. To further control data visibility, Apptio provides the option to define Row-Level security that can restrict visibility for data for end user reports. Screenshot provided below. Please reference Attachment E, too.



4.2.1.1.3 The WVOT currently invoices for a variety of WVOT services. WVOT desires the ability to organize the different types of data in order to produce separate monthly invoices. Please describe your solution's ability to meet or exceed this goal.

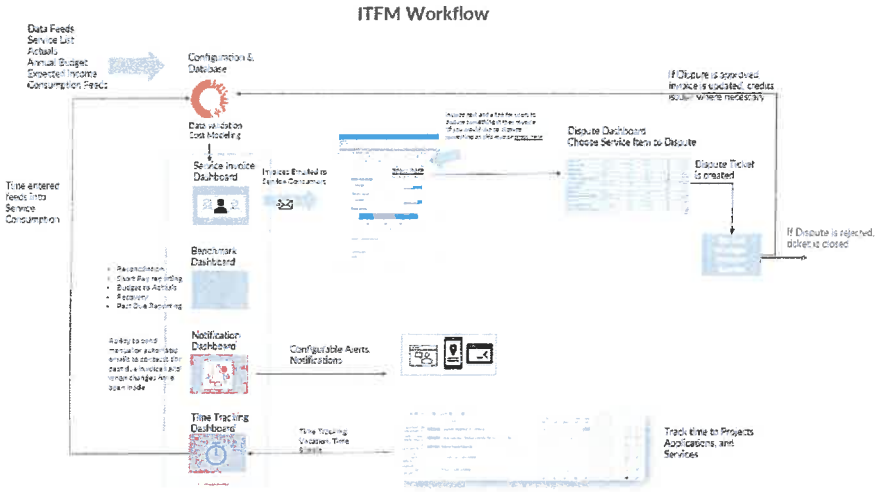
Apptio Bill of IT provides out of the box capability to upload and maintain custom IT Service catalogs. These catalogs can be used to track and deliver monthly invoices to consumers of those IT Services Invoices are created based on monthly consumption data for each service. Please reference additional information via Apptio Bill of IT datasheet Attachment C.

4.2.1.1.4 The WVOT desires the ability to set up multiple or distinct accounts receivable profiles within the system in order to reconcile invoices and payments received for the WVOT service offerings. Please describe your solution's ability to meet or exceed this goal.

Invoice payment data can be loaded monthly (or periodically) and associated with each customer. Customer accounts will be tracked using a unique customer id that is provided by WVOT or manually created during solution deployment Please reference Attachment I.

4.2.1.1.5 The WVOT desires a design document within ninety (90) calendar days of contract effective date. The design document must be submitted to and approved by the WVOT prior to implementation. Please describe your company's experience and strategy in developing design documents, as well as experience in working with state entities to gather all relevant information.

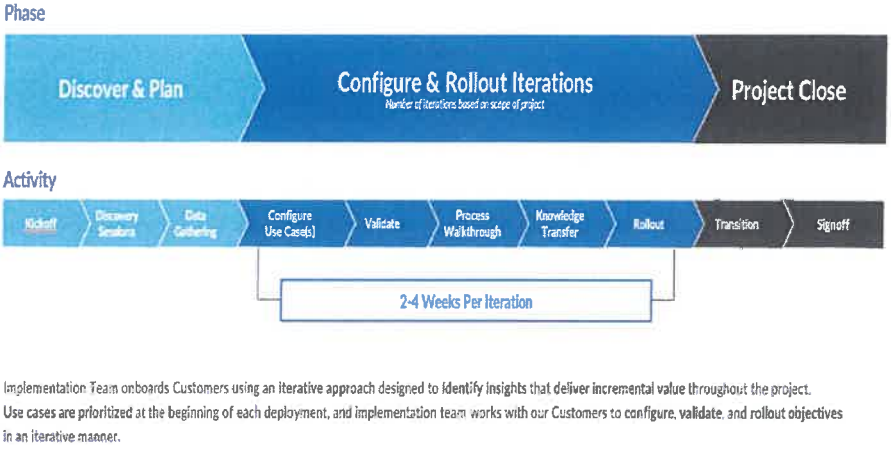
Apptio provides a purpose-built Information Technology Financial System (ITFM), that is used by public sector organizations such as the States of Washington, Kansas, North Dakota, Virginia, Tennessee, Texas, Georgia, US Veterans Affairs, Customs and Border Protection, US Secret Service, King County, WA et al. Apptio has developed Apptio TBM Unified Model® (ATUM® to provide adaptable best practices for standardized modeling of IT costs and allocations. Essentially, ATUM defines a business information model to help the office of the CIO manage IT as a business more effectively. Therefore, our system allows the Office of the CIO to clear communicate to constitutes the cost, value, quality as well as consumption to their constituents including Agencies, departments, Legislature, Executive Office as well as the public at large. Apptio is providing artifacts as an attachment for your reference. Please reference Solutions Architecture Document Attachment for sample artifact. Please reference sample Attachment J. This is only a partial document to protect the privacy of the other states and entities but it will give you a sense of a best practice design document.



4.2.1.1.6 The WVOT desires a project management plan within thirty (30) calendar days of contract effective date. This plan should provide the following key components; project charter, issue tracker, objectives and task lists, work breakdown structures (WBS), implementation schedule, and support and maintenance schedule for the new ITFM system in accordance with the Project management Body of Knowledge (PMBOK) or other industry standard project management methodologies stated in West Virginia State Code (§5A-6-4b). The project management plan must be submitted to and approved by the WVOT Project Management Office (PMO) prior to implementation. Please describe your company's experience and strategy in developing project management plans.

Apptio provides a purpose-built Information Technology Financial System (ITFM), that is used by public sector organizations such as the States of Washington, Arkansas, Kansas, North Dakota, Virginia, Tennessee, Texas, Georgia, US Veterans Affairs, Customs and Border Protection, US Secret Service, King County, WA et al. Apptio has developed Apptio TBM Unified Model® - ATUM® to provide adaptable best practices for standardized modeling of IT costs and allocations. Essentially, ATUM defines a business information model to help the office of the CIO manage IT as a business more effectively. Therefore, our system allows the Office of the CIO to clear communicate to constitutes the cost, value, quality as well as consumption to their constituents. Implementation team will provide State of West Virginia with onboarding teams with deep domain knowledge of IT, finance, and analytics best practices. With Apptio, you have the peace of mind that comes from partnering with the market leader in public sector technology business management.

Deployment Approach



Implementation Team onboards Customers using an iterative approach designed to identify insights that deliver incremental value throughout the project. Use cases are prioritized at the beginning of each deployment, and implementation team works with our Customers to configure, validate, and rollout objectives in an iterative manner.

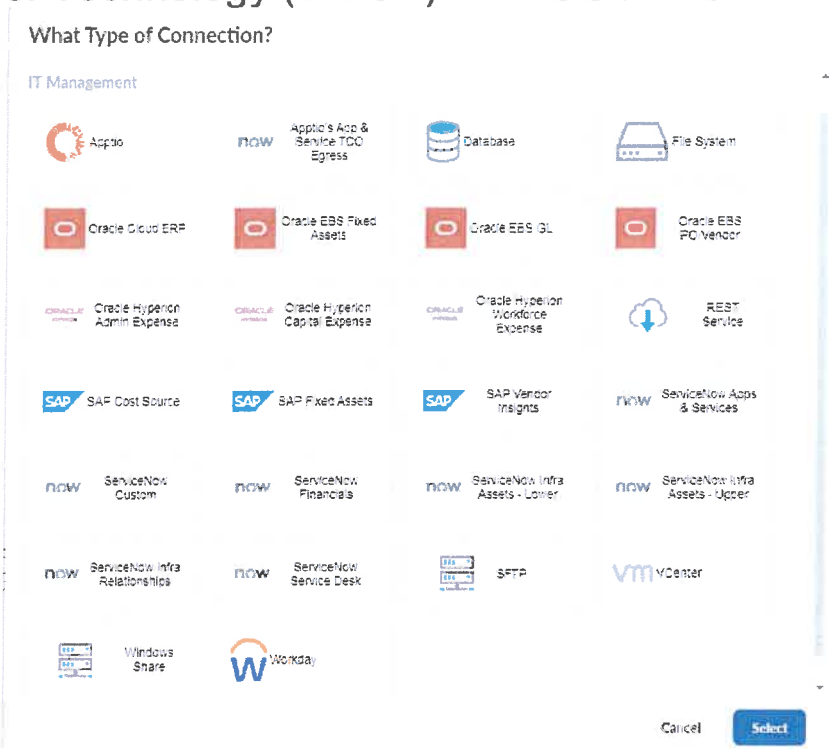
Please reference the following attachments for the detailed response

- Apptio Bill of IT - APPTIO JUMPSTART SERVICE: BILL OF IT STANDARD – Attachment C
- APPTIO IMPLEMENTATION SERVICE - COST TRANSPARENCY – Cost Transparency foundation – Attachment B
- Apptio Implementation Service: Targetprocess Advanced Onboarding - Attachment D

4.2.1.2 Development and Implementation - Phase 2

4.2.1.2.1 The WVOT desires the ability to integrate with a variety of external data sources. Please describe your solution's ability to meet or exceed this goal and provide a list of all API integration possibilities that your system currently can connect with.

"Datalink" is Apptio's ETL tool that Easily automates the ingestion of data from virtually any source system, such as SAP, Oracle, Amazon Web Services, and ServiceNow, through a library of intelligent connectors. Schedule connectors to pull data in on a regular basis, such as month-end close, and receive alerts and notifications when connectors complete an upload. Screenshot below, showing examples of out of the box Datalink connectors. Note: The screenshot does not show all possible connectors. For demo and additional information google "https://www.apptio.com/platform/datalink/". Apptio has also included a datasheet for Apptio TBM Studio Attachment E. Apptio has included the DataLink datasheet, too. Attachment F.



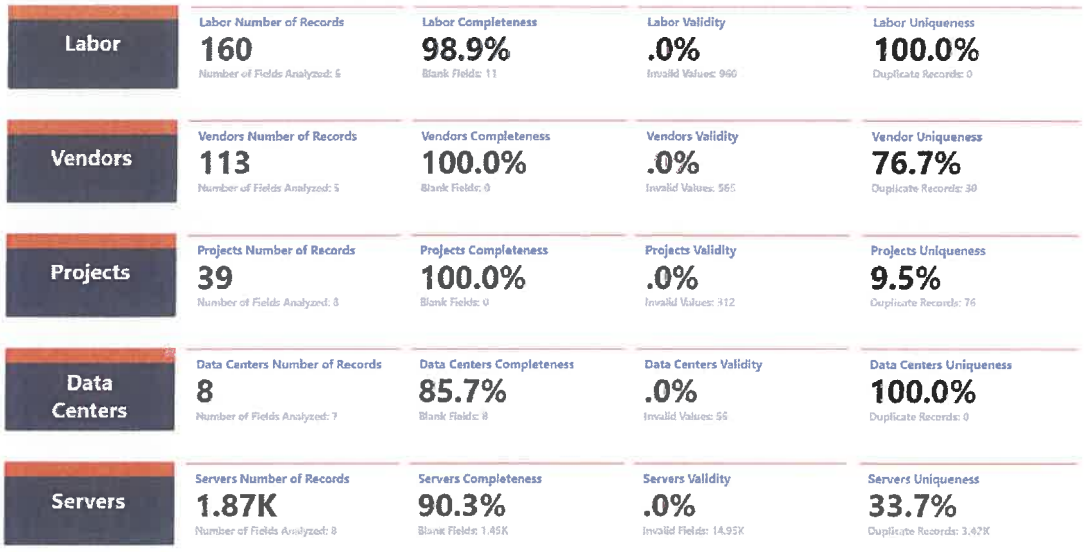
4.2.1.2.2 The WVOT receives payments from its agencies via the wvOASIS system. Agencies include the WVOT's unique invoice number in their payments. Currently, the WVOT utilizes internal reports, in csv or Excel, to obtain the payment information and manually reconciles invoices. The WVOT desires a more automated reconciliation process with the ability to reconcile agencies' invoices and payments via report upload utilizing the invoice number. The reconciliation should include the ITFM system updating its records to reflect the payments received and remaining balances if the invoice is short paid. Please describe your solution's ability to meet or exceed this goal.

Invoices delivered by the ITFM system can/will include a unique invoice number to be referenced with payment information. A payment feed provided by WVOT can be loaded into Apptio and associated with each invoice using the invoice number to provide an automated reconciliation and reporting. Also, please see Attachment J for sample solution architecture. Please reference Attachment I.

4.2.1.2.3 The WVOT desires the system to have built-in data validation capabilities such as instances where invoice number is incorrect or text input into a numeric field. Additionally, WVOT desires the ability to change data inputs as

needed upon its own inspection. Please describe your solution's ability to meet or exceed this goal.

Data sanitation and normalization can be configured using multiple approaches. Apptio also includes several Data Quality report catalogues which can be customized for WVOT's specific data sources. A sample screenshot is provided below of out of the box data quality and completeness assessment report. Only a small portion of the report is included in the screenshot. Additional reporting that exposes specific data quality concerns is available. Apptio has also included a datasheet for Apptio TBM Studio. Please see Attachment E and F.



4.2.1.2.4 The WVOT desires the ability to input its annual budget and the ability to compare current year's expected income for each rate in comparison to the actual recovering amount being billed. Please describe your solution's ability to meet or exceed this goal.

Apptio's Cost Transparency Foundation product includes the comparison of "Actuals" versus a variety of variety of measures including forecast and actuals. These comparisons can not only be applied to rates and recoveries, but also standard accounting/finance metrics and infrastructure budget versus actual inventories. Reporting can expose trend lines across time for these measurements along with the ability to drill into the details to enable identification of the root cause of the variance. Please see Attachment H.

4.2.1.2.5 The WVOT desires the ability to upload or input backup details for each invoice including, at a minimum: Billing Account Number, Customer Number, Department Number, Office Number, Address, Agency Number, Service Name,

Service Number, Description, Unit Quantity, Cost Per Unit, and Total Price. Please describe your solution's ability to meet or exceed this goal.

Apptio can ingest, retain, and visualize all data elements and includes the option to drill into supporting/backup details for report values presented, hence the product's name *Cost Transparency*. This functionality ensures that data can be summarized at the most meaningful level for reporting while ensuring supporting details are available to provide justification/credibility for the numbers presented. Please see Attach E and F, too.

4.2.1.2.6 The WVOT desires the ability to store large data sets within the system, such as telecom invoice details, which are approximately 345,000 Excel rows of data per month, and Mainframe invoice details, which are approximately 400,000 Excel rows of data per month. The WVOT also desires the ability to store archived invoice backup data. Archived invoice backup data can be stored in a separate solution, if needed, but must be accessible by the WVOT. Please describe your solution's ability to meet or exceed this goal and any data size limitations that can be uploaded and shown for backup.

Apptio's products are architected to ingest vast amounts of data up to millions of rows. Datasets uploaded into Apptio are available for later retrieval by a simple download, assuming the user has been given access to the Apptio TBM Studio interface where uploads/downloads and overall data management occurs. Apptio provides a complex and large billing solution for US Veterans Affairs with over $1.4 Billion dollars in cost recovery per year. Apptio also provides IT cost recovery for US Federal Reserve as well as most of the major financial institutions on Wall Street. Therefore, scaling and volume requirements are not an issue for Apptio. As well, Apptio provides a complex billing solution for the State of Texas, Georgia, Arkansas, Kansas, North Dakota as well as Virginia.

4.2.1.2.7 The WVOT desires the ability for the agency to dispute charges on an invoice to the line item level. Further, the WVOT desires the ability for disputes to be entered and resolved in the system, including the ability to issue credits. After an agency files a dispute, the WVOT desires that agencies receive an updated total for the disputed invoice in order to short pay. Please describe your solution's ability to meet or exceed this goal.

Our solution for this scenario is to provide invoice recipients with a hyperlink within the invoice that would take the end user to Apptio's TargetProcess product where the disputes is captured. Workflow would capture the end user's concern and allow the dispute reviewer to accept the dispute for further action or reject the dispute and process the invoice as an over/under recovery based upon the client's specific business needs. Please see Attachment I, too.

4.2.1.2.8 The WVOT desires time reporting capability from the Vendor solution. Additionally, the WVOT desires the ability for non-administrator employees to

enter time, that employee's supervisor to approve time, and create invoices for time based on billable project codes. Please describe your solution's ability to meet or exceed this goal.

Apptio can allows for entry as well as ingestion of time entry data including time records and time sheets. In addition, it allows for the allocation to a variety of different aspects (project, cost center, etc.). Based upon the ingestion and allocation of labor hours, Apptio can then create invoices based on billable project codes. Highlights of advanced capabilities are as follows:

Labor Attribution Options

Time tracking

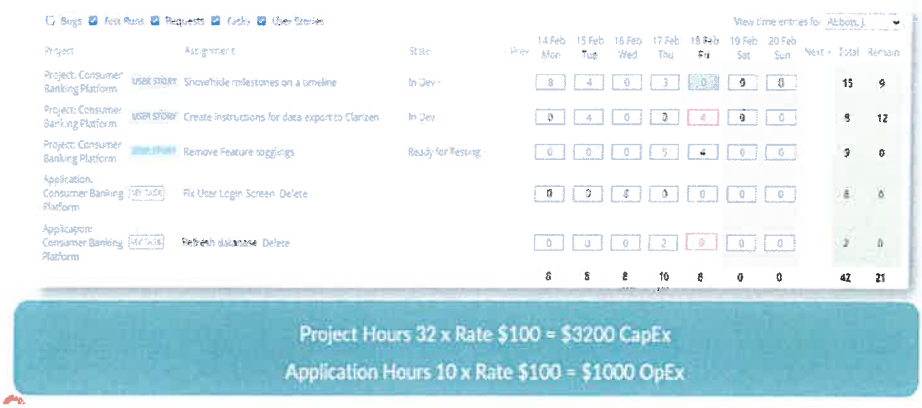
- Track time to SSR codes
  - Project = Capitalizable
  - Application = Non-capitalizable
  - Service = Non-capitalizable
- Calculate capitalizable labor by multiplying capitalizable hours by rate of resource

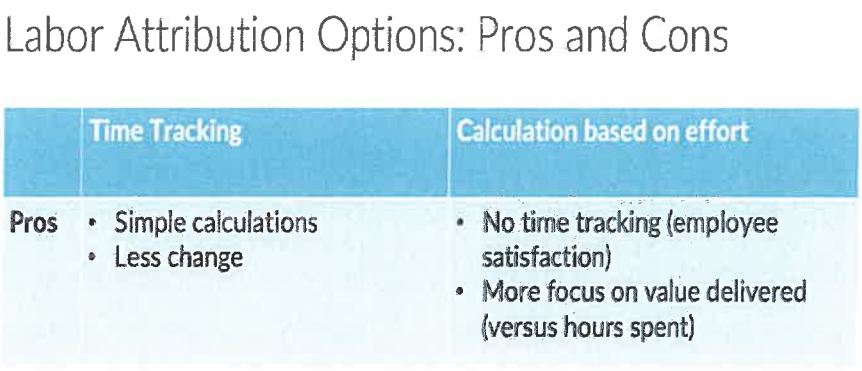
Calculations based on effort

- Teams and individuals complete user stories
- User stories are tagged are tagged to SSR codes
  - Project = Capitalizable
  - Application = Non-capitalizable
  - Service = Non-capitalizable
- Quantify cost of teams and individuals for a month
- Calculate capitalizable labor based on cost of team or individual and percentage of capitalizable work completed in month

Time tracking

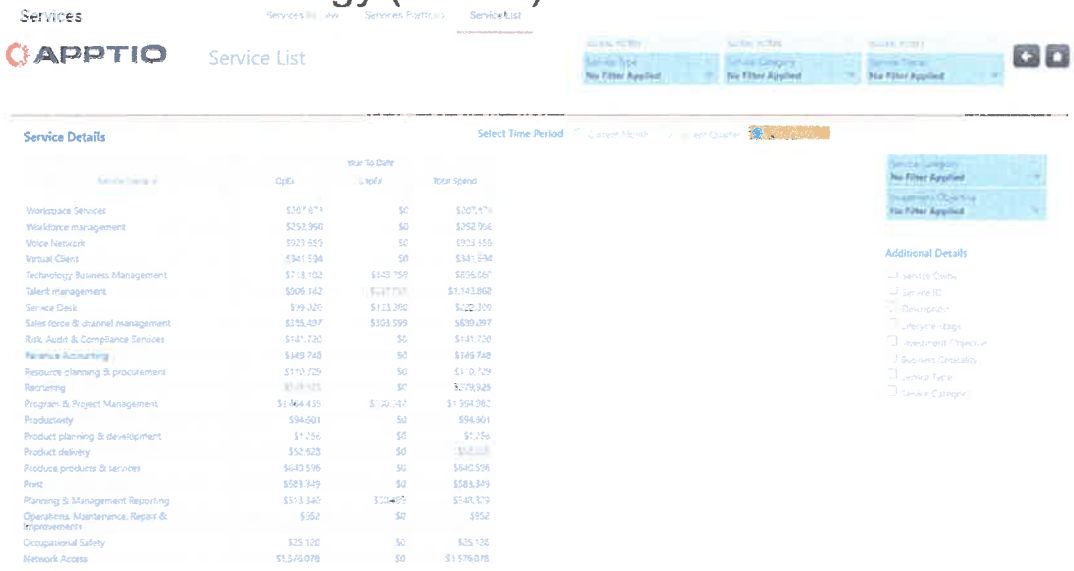
Individual resources enter time directly into Targetprocess. They only see time codes on work items to which they are assigned (these assignments can be populated from other sources).





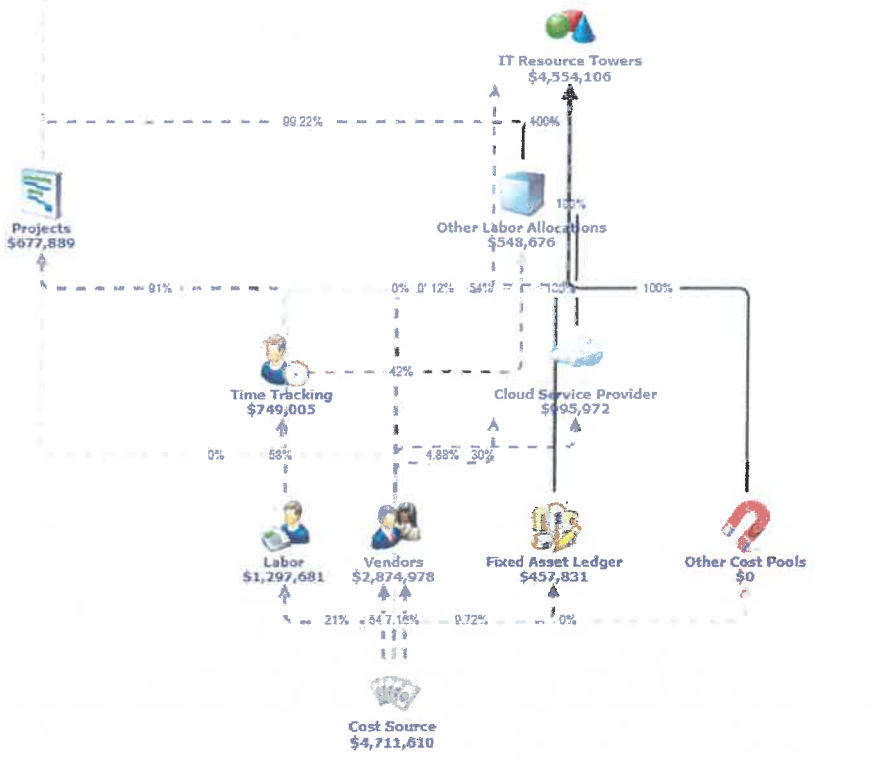
4.2.1.2.9 The WVOT desires the ability to create an ITFM service catalog by uploading existing data, develop new service rates, and the ability to enter miscellaneous or one-time charges. Additionally, the WVOT desires the ability to assign a service code number for each of its services, the unit price per service, the unit type per service offering, and a description of the service. Further, the WVOT desires that the service catalog be published and accessible to its customers via web portal at all times, with the ability to update and refresh the catalog as needed. Please describe your solution's ability to meet or exceed this goal.

Apptio's Cost Transparency product includes a Service Catalog component that customers user to manage their service catalog data, including identifiers, rates, categorizations, regional rate exceptions, and owners. This catalog is easily exposed to end users via out of the box reports. A sample screenshot of available Service Reports is shown below.



4.2.1.2.10 The WVOT desires the ability to perform cost modeling. Please describe your solution's ability to meet or exceed this goal.

Apptio's Cost Transparency product is specifically designed to facilitate the creation of cost models using either a pre-defined, industry standard taxonomy (ATUM), or customized to the client's needs. Cost modeling can be configured using industry standard allocations or allocation methods that are specific to the customer. Two different views of a sample Apptio cost model are shown in the screenshot below. Please see the TBM Studio Datasheet – Attachment E.



4.2.1.2.11 The WVOT desires the ability to create invoices that show a monthly breakdown of charges to send to customers for payment. Additionally, the WVOT desires the ability for administrators to add fields as needed to the invoices.

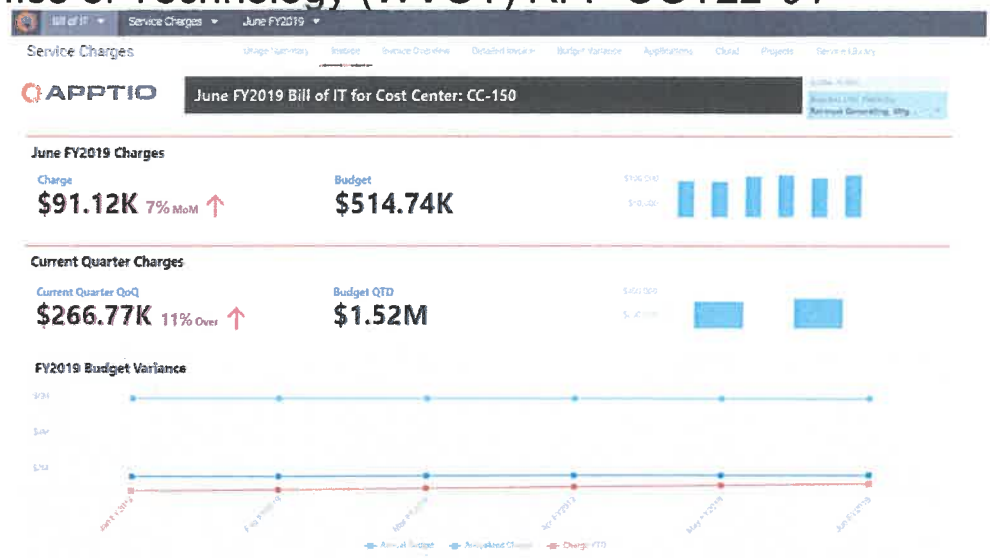
At a minimum, the invoice should contain the following fields.

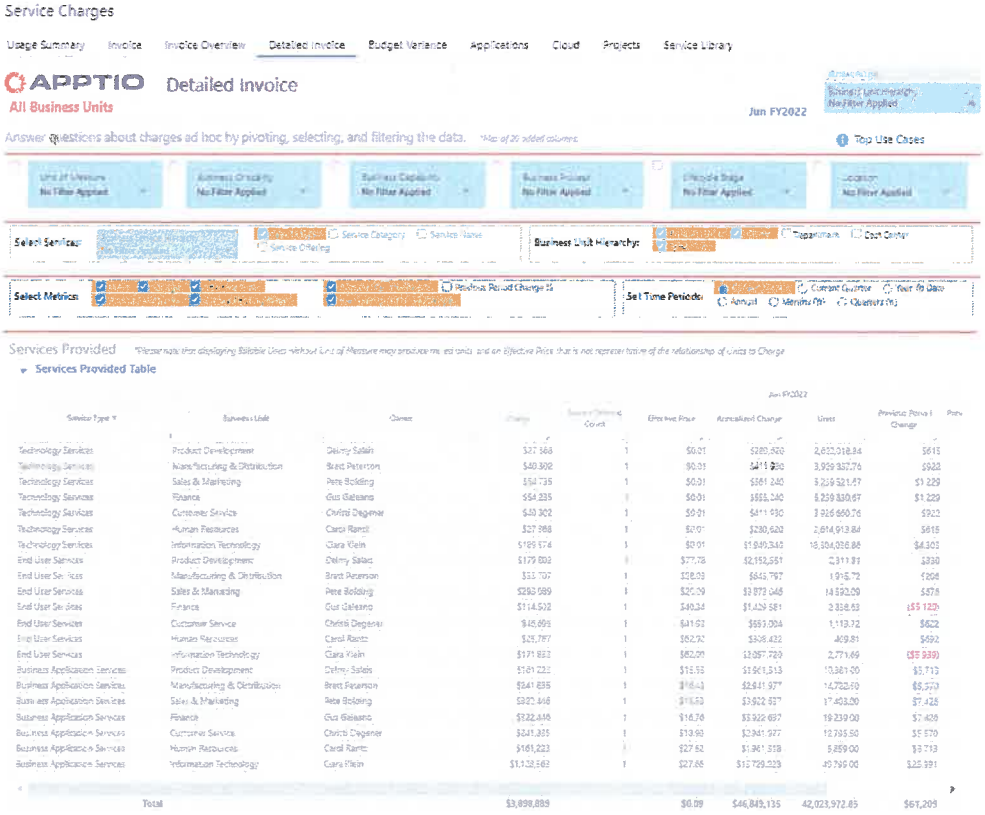
- Per Unit Cost - What each asset/service cost (price per unit);
- Rate for each Service/Asset - The price of each service/asset
- Quantity - quantity of service/asset (predefined unit rate);
- Cost Center Number
- Cost Center Name
- Agency Contact Name
- Agency Contact Address
- WVOT Funding String
- End of Month Date
- Customer ID
- Date Due
- Our contact information to use with billing issues
- Optional: Notes field to display additional information
- Invoice #
- Remittance Information

The WVOT is including a copy of one of its invoices for reference - see Attachment B. The Vendor should submit a sample invoice with its bid for review. Please describe your solution's ability to meet or exceed this goal. Apptio's Bill of IT product includes a variety of reports that show multiple levels of detail for invoice recipients. Emails are generated with the invoice and a link to the Apptio Bill of IT product is provided that include greater levels of detail regarding the invoice. A screenshot of the Bill of IT product screen is shown below. Note the report tabs across the top of the screen showing an Invoice Overview, Detailed Invoice, Variance, Application based costs, Cloud costs, Project costs and the Service Library. Add Fields – TBM Studio – Attachment E.

REQUEST FOR PROPOSAL (Response)

WV Office of Technology (WVOT) RFP OOT22*01





Bill of IT Sample Invoice

Automate monthly billing

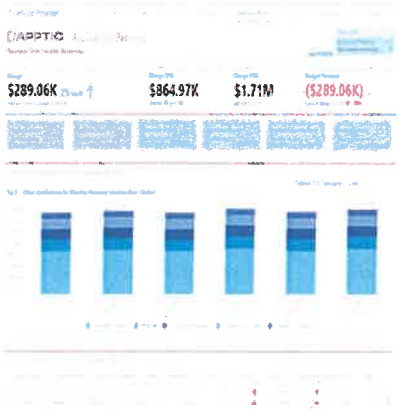
- Deliver bills automatically via email for easy access.
- Leverage simple, business-friendly pro-forma invoice templates.
- Automate chargeback extracts for corporate financial systems.

Communicate with the business

- Show the value IT is delivering and increase transparency into what makes up the cost of IT.
- Extend ApptioOne for defensibility and justification of charges.
- Automate email delivery of your bill of IT.
- Communicate predictable and trustworthy IT allocations.

Drive consumption behavior

- Provide service options and let business consumers dictate demand.
- Choose subsidization strategies to drive adoption and sunset of services.
- Recover costs and perform true-ups for business relationship managers.
- Showback unit rate and consumption detail for applications and services.



Provide self-service allocation details

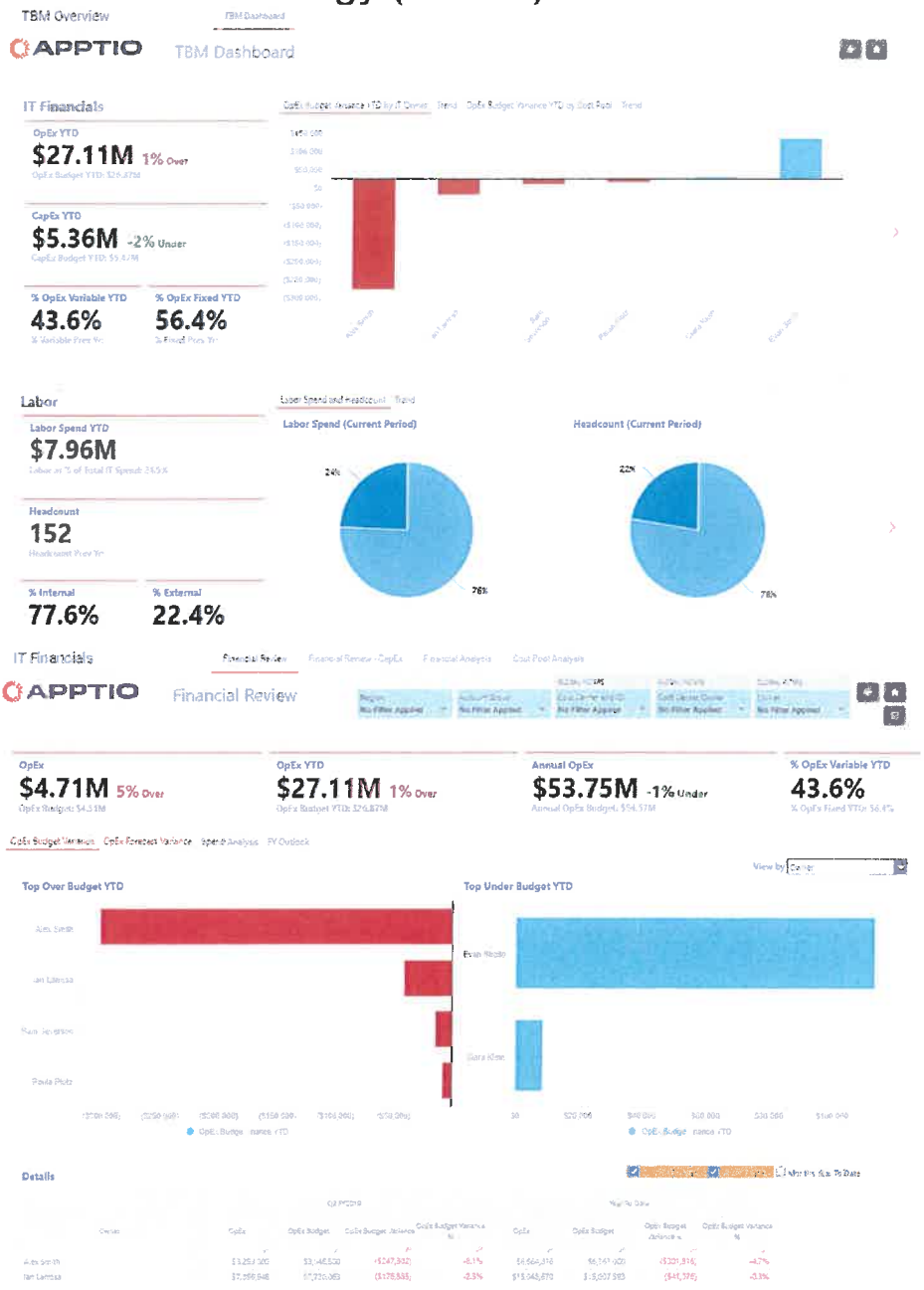
- Easily communicate IT spend by business unit, department, and user.
- Provide self-service allocation detail directly to business consumers.
- Increase predictability and minimize impact of financial true-ups for variances in plan.

4.2.1.2.12 The WVOT desires the ability to send, from the ITFM System, invoices and backup details to customers via an email attachment, or a link, and the ability to print documents in a pdf format from the system. Additionally, the WVOT desires the ability to send manual or automatic emails from the system to contacts listed for past due invoices and when changes have been made. Please describe your solution's ability to meet or exceed this goal.

Apptio's Bill of IT product includes the functionality to send invoices via email. The invoice includes a hyperlink to the Bill of IT product that includes multiple views of invoice data (as shown in the screenshot within the prior question). Additional capabilities may be configured during implementation with Apptio Bill of IT and Apptio Targetprocess to tailor to your specific human workflow processes. Please see attachment I and G.

4.2.1.2.13 The WVOT desires dashboard capabilities accessed via a web portal by both the WVOT and agencies. Dashboard capabilities should include, at a minimum, a benchmark dashboard within the portal for ease of comparison, an invoice dashboard to view at least three (3) years of invoices and invoice backup data. Please describe your solution's ability to meet or exceed this goal.

Dashboard reports and other Management Information Reporting can be created to customer specifications, including benchmark reference data and data formatted as tables, trends, column/row charts, and KPI values and other data visualizations. The dashboard and be configured include multiple years of data. An example of an out of the box *TBM Dashboard* screenshot is provided below. Note that small orange arrow to the far right of the charts links to support details for the dashboard summary. The second screenshot shows an example of the IT Financials (*Financial Review*) dashboard that appears visible when the user clicks the orange arrow on the TBM dashboard for IT Financials. You may google "https://www.apptio.com/platform/apptio-bi/" for additional information including a demo. Please reference Attachments E and I, too.



4.2.1.2.14 The WVOT desires financial reporting capabilities. Additionally, the WVOT desires the ability to use system data to create ad hoc reports in csv format. Lastly, the WVOT would like to see examples of pre-configured reports that are available from the system. Please describe your solution's ability to meet or exceed this goal.

There are multiple options for providing reporting data for use by the end user. Apptio report tables can be easily exported to Excel, or Apptio's Datalink product can be used to automatically migrate report output to other locations. Please refer to the screenshots posted as responses to other specific requirements. An additional screenshot has been provided below to illustrate how easily report

tables can be exported to Excel (the export menu is circled in red). Please review Attachment E. You may google "https://www.apptio.com/platform/apptio-bi/" for additional information. This includes a demo and covers self-service reporting.

4.2.1.2.15 The WVOT desires professional services for setting up the WVOT cost models. Please describe your solution's ability to meet or exceed this goal.

Apptio provides a purpose-built Information Technology Financial System (ITFM), that is used by public sector organizations such as the States of Washington, Arkansas, Kansas, North Dakota, Virginia, Tennessee, Texas, Georgia, US Veterans Affairs, Customs and Border Patrol, US Secret Service, King County, WA et al. Apptio has developed Apptio TBM Unified Model® (ATUM® to provide adaptable best practices for standardized modeling of IT costs and allocations. Essentially, ATUM defines a business information model to help the office of the CIO manage IT as a business more effectively. Therefore, our system allows the Office of the CIO to clear communicate to constitutes the cost, value, quality as well as consumption to their constituents. Implementation team will provide State of West Virginia with an Apptio solution that includes the initial configuration of the Apptio Cost model. Please see Attachment K - APPTIO TBM UNIFIED MODEL® (ATUM®) The Standard Cost Model for IT for the complete response.

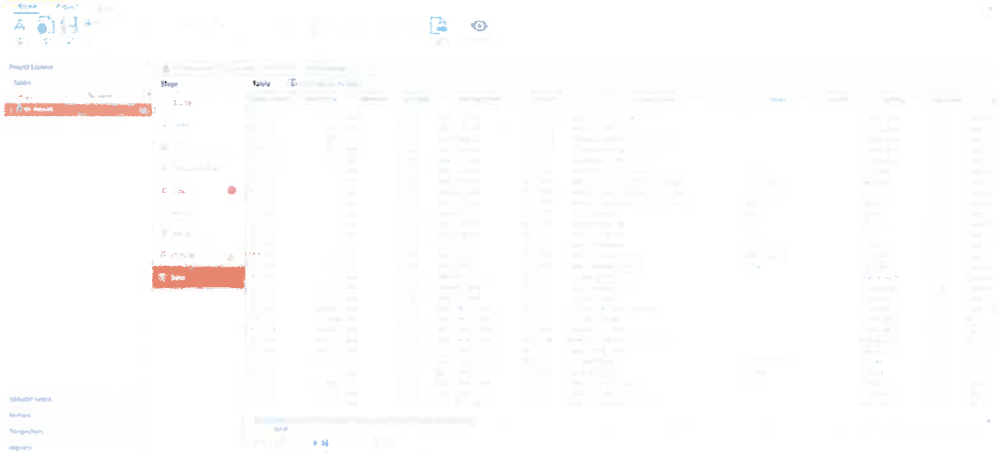
Please reference the following attachments for the detailed response

- Apptio Bill of IT - APPTIO JUMPSTART SERVICE: BILL OF IT STANDARD – Attachment C
- APPTIO IMPLEMENTATION SERVICE - COST TRANSPARENCY – Cost Transparency foundation – Attachment B
- Apptio Implementation Service: Targetprocess Advanced Onboarding - Attachment D

4.2.1.3 Development and Implementation - Phase 2

4.2.1.3.1 Vendor's solution must allow the WVOT to input actuals.

Apptio's products are designed to accept customer actuals in a variety of data formats, including automatic ingestion of data based upon defined business schedules. A screenshot is provided below showing the upload of sample GL data.



4.2.1.3.2 Vendor's solution must have the ability to upload backup details for each invoice.

Customer data uploaded into Apptio's products can be as detailed as desired. Customer details can be exposed via reports at the level of granularity desired by the customer, including summarized data that can be clicked to display greater levels of detail as desired. The screenshot below shows an example of the Vendor Details report. The Amazon Web Services entry circled in red has been clicked, and the Vendor Details data is displayed as a pop up window in the foreground.

4.2.1.3.3 Vendor's solution must allow credit memo functions.

Users can enter in credit memo data. Additionally, in regards to the general data management of credits, prepays, or accumulated depreciation, that function is already included with aforementioned data modeling.

4.2.1.3.4 Vendor's solution must allow WVOT to manually enter data into the system.

Apptio provides multiple options for accepting user input, including editable tables, memo fields to capture free form text and descriptions, notes and memos that can be added to reports for all users to see, as well as the ability to add a comment to a single cell within a table on a report. In addition, should a customer desire to adjust existing data it is easy to upload corrected or adjusted data.

4.2.1.3.5 Vendor's solution must have the ability to upload files that are in Microsoft Excel .xls or .csv formats.

Apptio accepts .xls, .xlsx, .csv, tsv. and .zip files of these formats. Please reference attachment F.

4.2.1.3.6 Vendor's solution must have accounts receivable functionality.
-Can collect and track payments
-Can send invoices
-Can communicate with WVOT general ledger system for A/R reporting

Apptio can collect and track payment data and distribute invoices (as per the Bill of IT module described before). Users can also leverage the built in API end points for all data points to push information back to their general ledger system (and other systems, if desired).

4.2.1.3.7 Vendor's solution must have the ability to handle large data sets, such as telecom invoice details which is approximately 345,000 Excel rows of data per month and Mainframe invoice detail which is approximately 400,000 Excel rows of data per month.

Uploading data of this size, (and larger), is easily managed by Apptio's products.

4.2.1.3.8 Vendor's solution must have the ability to add attachments (including pdf, xls, webpage, doc).

Attachments can be added when tracking time, filing disputes, et al.

For additional information, please reference the following:

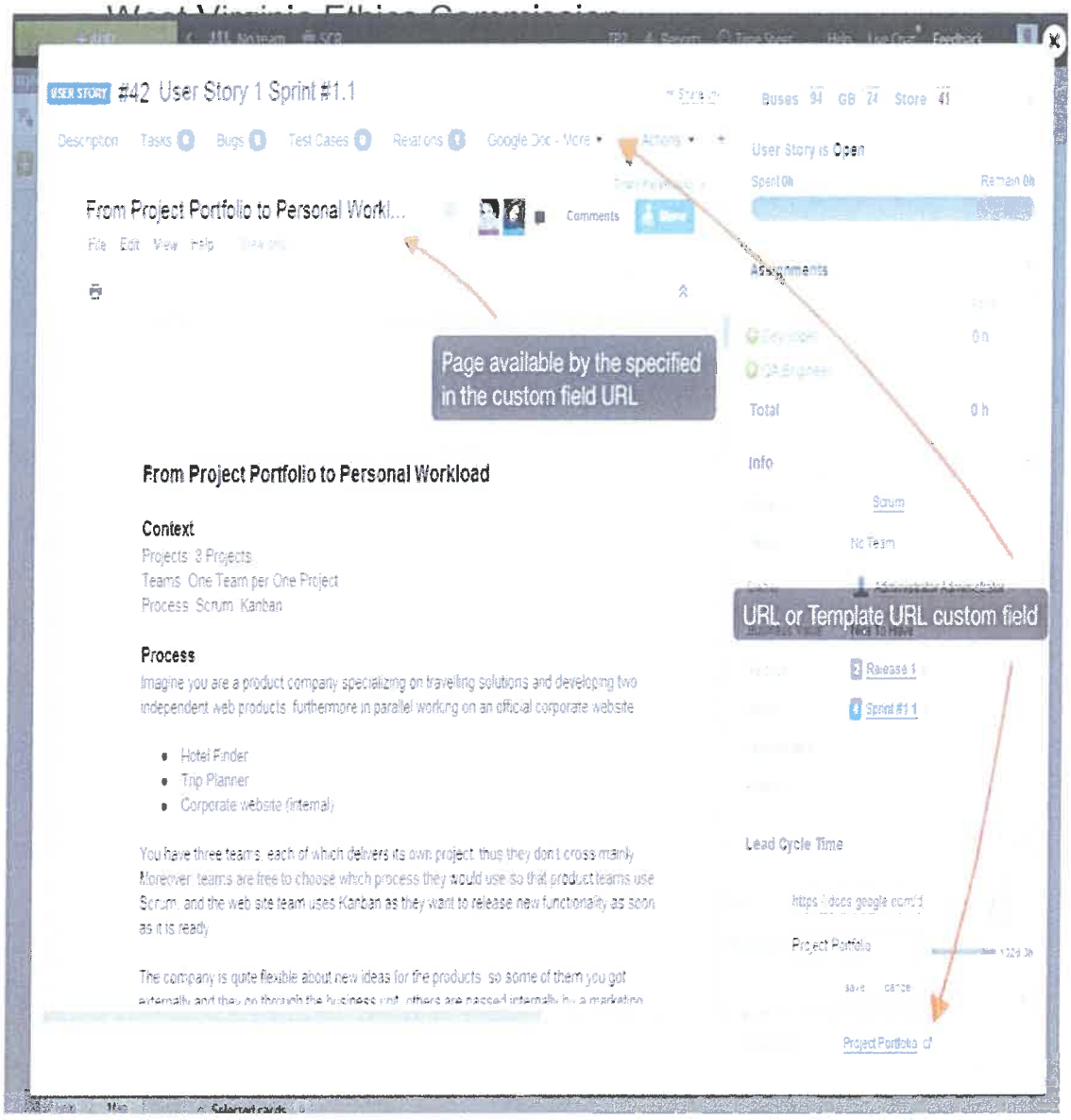
Google " https://www.apptio.com/platform/comments-collaboration/"

Additionally, the solution proposed includes Apptio Targetprocess. Then, it is also possible to embed content from external tools using two features: the Embedded Pages mashup (add-on) and the Web Page dashboard widget. Uploading Files and Attachments. Every entity has an Attachments area. You can use drag-n-drop to upload files from your computer into Apptio Targetprocess, too.

As well, you can host your documents externally and let Targetprocess entities contain reference links to them. You can put the link to your externally hosted document into the following places: Entity Description, Rich text custom field, Comment text.

Moreover, there is a special Mashup (extension) named Embedded pages. Once installed from the Mashups Library and configured properly, it can display any available documents. Clicking on a file's URL link will open an additional Tab in the entity's detailed view.

The following is an example configured to match customer tailored processes.



Above is a sample document configuration attachment for a project.

Vendor's solution must have the ability to create a service catalog.
Creation and management of service catalog is a basic function of Apptio's Cost Transparency product. Apptio also includes a reference catalog that can be used to assist customers who are developing a catalog from scratch, or wish to expand their existing catalog. The reference catalog includes standard categorization and nomenclature as well as service descriptions.

4.2.1.3.9 Vendor's solution must have the ability to create invoices.

Apptio's Bill of IT product generates and emails invoices:

(1) Deliver bills automatically via email for easy access.

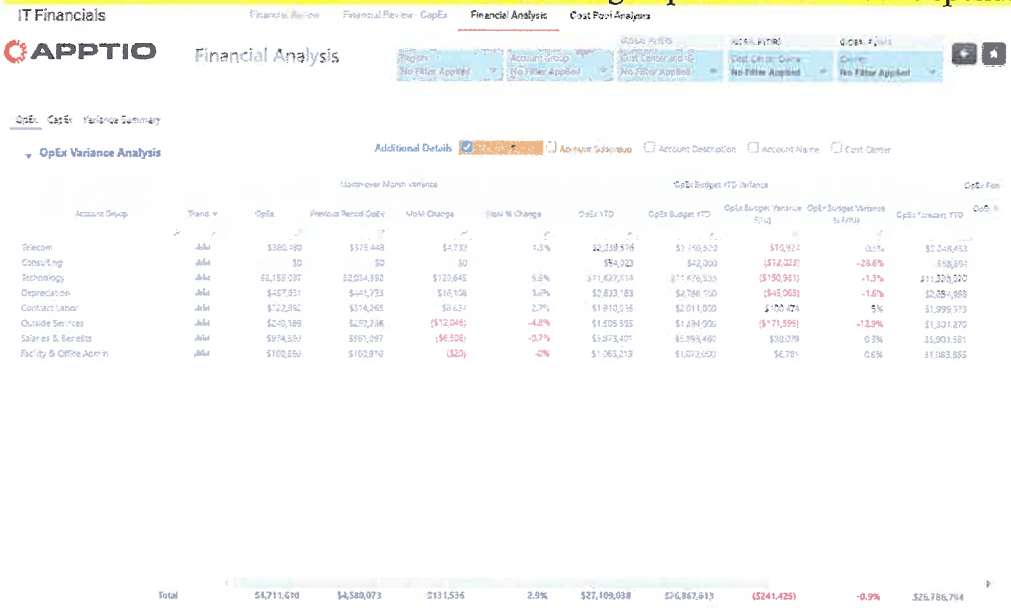
(2) Leverage simple, business-friendly pro-forma invoice templates.

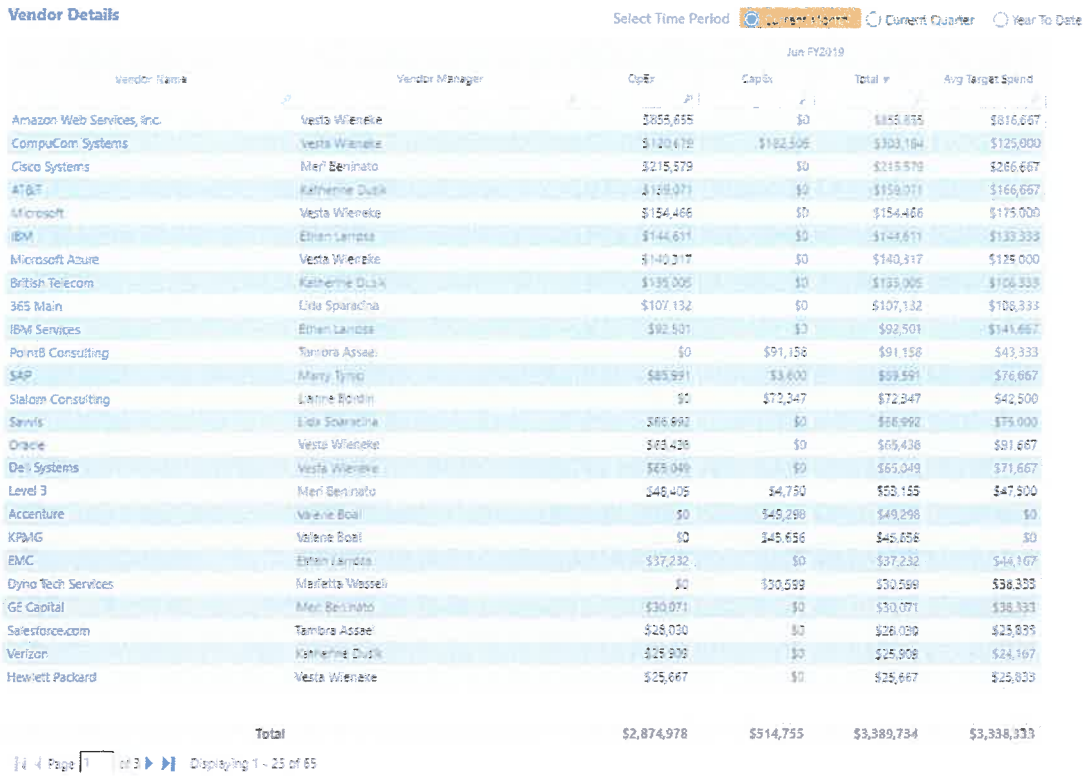
(3) Automate chargeback extracts for state of West Virginia financial systems.

4.2.1.3.10 Vendor's solution must have the ability to email invoice and backup details for each invoice as needed.

Apptio's Bill of IT product emails invoices and creates historical records of all invoice related information. Please see attachment J.

4.2.1.3.11 Vendor's solution must have ability to track actuals monthly to budget. Apptio's Cost Transparency provides out of the box reporting that tracks budget versus actuals by month. Customers may further tailor reports to show variance trending for whatever measure their business needs may require. The screenshot below shows an example of month over month variance analysis for Account group. The second screenshot shows Actuals versus Budget by Cost Center. The third screenshot shows Vendor Target spend versus Actuals spend.





Vendor Details

Select Time Period: Current Month | Current Quarter | Year To Date

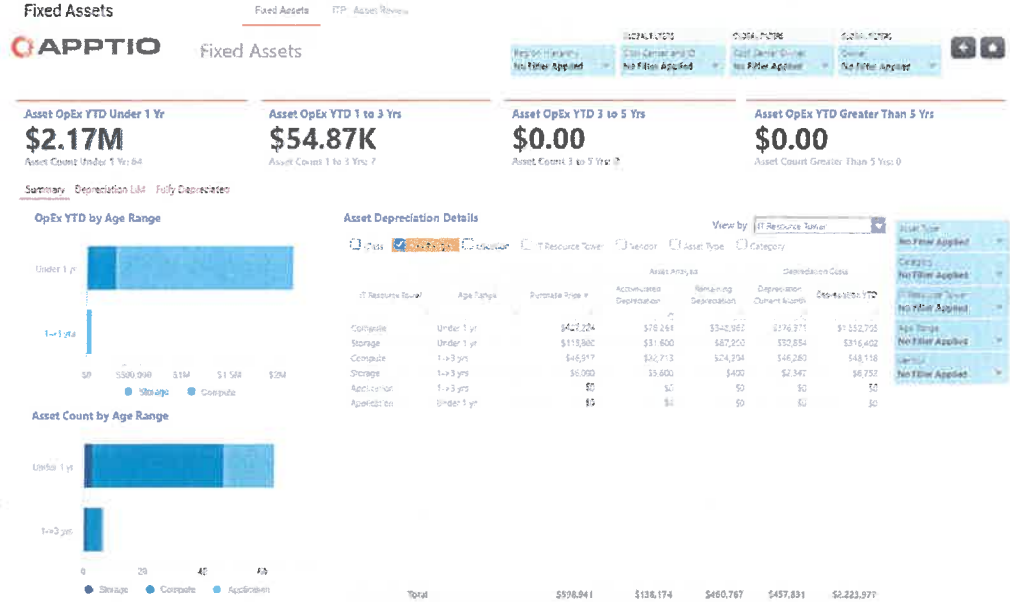
Jun FY2019

Vendor Name	Vendor Manager	OpEx	CapEx	Total	Avg Target Spend
Amazon Web Services, Inc.	Vesta Wieneke	$855,655	$0	$855,655	$816,667
CompuCom Systems	Vesta Wieneke	$120,679	$182,506	$303,184	$125,000
Cisco Systems	Merl Beninato	$215,579	$0	$215,579	$266,667
AT&T	Katherine Duck	$159,071	$0	$159,071	$166,667
Microsoft	Vesta Wieneke	$154,466	$0	$154,466	$175,000
IBM	Ethan Landis	$144,611	$0	$144,611	$133,333
Microsoft Azure	Vesta Wieneke	$140,317	$0	$140,317	$125,000
British Telecom	Katherine Duck	$135,005	$0	$135,005	$108,333
365 Main	Lida Sparacino	$107,132	$0	$107,132	$108,333
IBM Services	Ethan Landis	$92,501	$0	$92,501	$141,667
PointB Consulting	Tamara Assaf	$0	$91,158	$91,158	$43,333
SAP	Mary Tyno	$85,991	$3,600	$89,591	$76,667
Slalom Consulting	Lianne Bordin	$0	$72,347	$72,347	$42,500
Savvis	Lida Sparacino	$66,992	$0	$66,992	$75,000
Oracle	Vesta Wieneke	$65,438	$0	$65,438	$91,667
Dell Systems	Vesta Wieneke	$65,049	$0	$65,049	$71,667
Level 3	Merl Beninato	$48,405	$4,750	$53,155	$47,500
Accenture	Valerie Boal	$0	$49,298	$49,298	$0
KPMG	Valerie Boal	$0	$45,656	$45,656	$0
EMC	Ethan Landis	$37,232	$0	$37,232	$44,167
Dyno Tech Services	Marietta Wessell	$0	$30,599	$30,599	$38,333
GE Capital	Merl Beninato	$30,071	$0	$30,071	$38,333
Salesforce.com	Tamara Assaf	$26,030	$0	$26,030	$25,833
Verizon	Katherine Duck	$25,908	$0	$25,908	$24,167
Hewlett Packard	Vesta Wieneke	$25,667	$0	$25,667	$25,833
Total		$2,874,978	$514,755	$3,389,734	$3,338,333

Page 1 of 3 | Displaying 1 - 25 of 65

4.2.1.3.12 Vendor's solution must have dashboard capabilities.

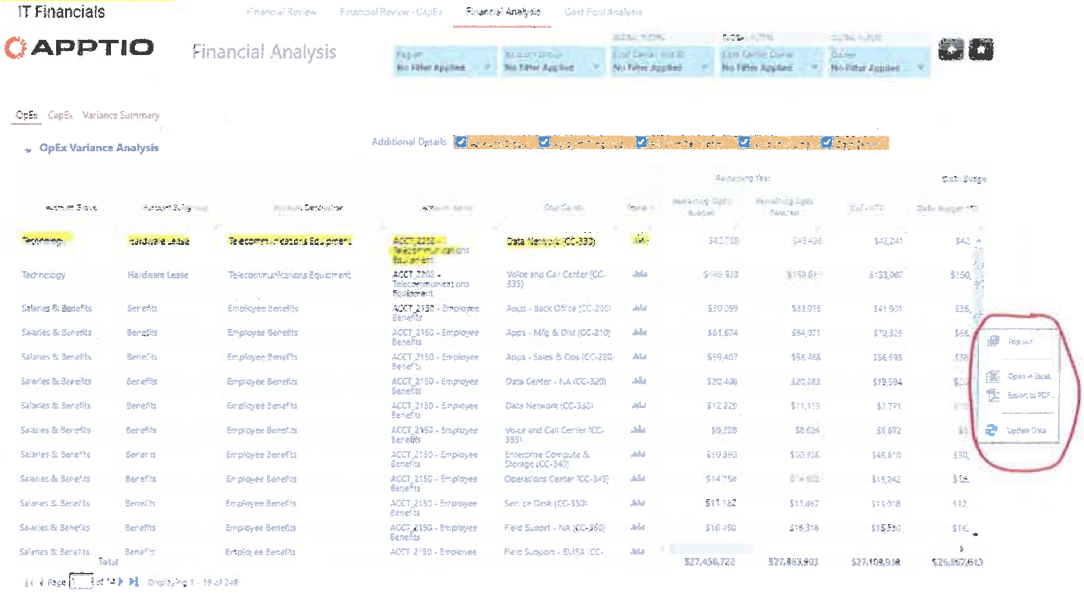
Apptio's products provide out of the box dashboards for a variety of financial measures. These dashboards can be customized to meet specific customer needs. New dashboards can be created as well to fulfill business needs that are not immediately met by out of the box reporting options. Various screenshots of dashboard have been provided in previous responses. An additional dashboard showing Fixed Asset information is provided below.



Please also reference Attachment E and consider googling "Apptio BI - https://www.apptio.com/platform/apptio-bi/" . It includes a demo.

4.2.1.3.13 Vendor's solution must have financial reporting capabilities.

Apptio's Cost Transparency product has a large suite of out of the box financial reports that expose variance, metric trends, and summary data, (with on demand supporting details for those summaries). A variety of data visualization are included in out of the box reports as well. Custom reports can be created to fulfill additional requirements, as needed. A sample screenshot is provided below showing datapoints in yellow highlighting that are linked to a report with greater levels of detail, as well as the export to Excel option for the table circled in red.



Please also reference Attachment E and consider googling "Apptio BI - https://www.apptio.com/platform/apptio-bi/" . It includes a demo.

4.2.1.3.14 Vendor's must provide implementation support including setting up the WVOT budget, service catalog, billing input integration, account and invoice setup, and dashboard and financial reporting capabilities.

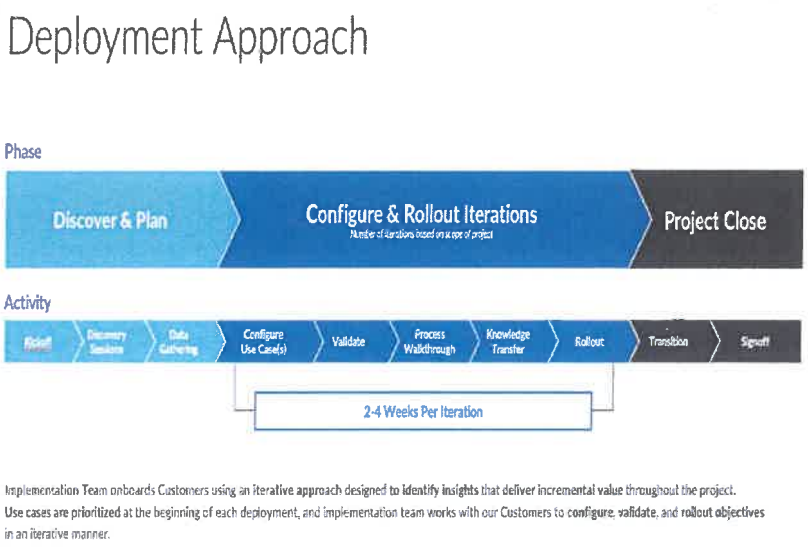
Apptio's Cost Transparency product includes powerful data integration and relationship management. This includes budget data management, cost center hierarchy, and chart of accounts. Cost Transparency includes a standard set of financial reports that provide immediate information for variance, trending and categorization of data. These reports provide valuable opportunities for data analysis of financial data, and billing outputs.

Please reference the following attachments for the detailed response -

- APPTIO IMPLEMENTATION SERVICE - COST TRANSPARENCY – Cost Transparency foundation – Appendix B
- Apptio Implementation Service: - Targetprocess Advanced Onboarding – Appendix D

4.2.1.3.15 Vendor's solution must run for two, consecutive monthly invoice cycles with no significant errors as determined by the WVOT to verify all capabilities of the system. Should changes be necessary, the Vendor and WVOT will work together to make adjustments. After a successful two-month invoice cycle, the WVOT will render payment for Phase 2 - System Validation and Testing.

This requirement can be built into a services-related SOW to ensure this is captured. This can be done by our standard deployment implementation approach to include iterations referenced below, too.



Please reference the following attachments for the detailed response

- Apptio Bill of IT - APPTIO JUMPSTART SERVICE: BILL OF IT STANDARD – Attachment C
- APPTIO IMPLEMENTATION SERVICE - COST TRANSPARENCY – Cost Transparency foundation – Attachment B
- Apptio Implementation Service: Targetprocess Advanced Onboarding - Attachment D

4.2.2.4 Training, System Validation, and Years 1-3 Maintenance and Support

- 4.2.2.4.1 Vendor's solution must provide training for WVOT and end users. Yes
- 4.2.2.4.4 The Vendor must agree and/or acknowledge that: including upgrades, patches, and bug fixes. Maintenance and support will be paid annually by the WVOT. Yes
- 4.2.2.4.3 The Vendor must provide support via email, phone, or chat Monday through Friday 8am to 5pm EST Yes
- 4.2.2.4.4 The Vendor must agree and/or acknowledge that:
  - The State owns all of the data supplied and collected as part of this contract; Yes
  - The State expects full, complete, and timely cooperation in disentangling the relationship in the event that the contract expires or terminates for any reason; and 3. The Vendor must supply the State with the State's data in an agreed upon format at the expiration and/or termination of the contract in a timely manner. Please acknowledge your firm's acceptance of this. Yes; Apptio provides standardized reporting to address these types of requirements.

4.2.2.4.5 After the Vendor has rendered its training services and is providing ongoing maintenance and support,

the WVOT will render payment for Training, System Validation, and Ongoing Maintenance - Phase 3. Apptio provides Software AS A Service Solution. An initial payment of $50k for SAAS Year One costs and $7k for Training are required upon project initiation. This will be deducted from phase 3 year one of the proposed cost. Apptio does have flexibility to address various payment scenarios through resellers such as SHI.

4.2.2.5 Vendor must provide an hourly rate for services for changes related to changing tables, datasets, dashboards and reporting features that can be utilized after initial system acceptance. Yes

4.2.2.6 Optional Annual Renewal Years - Vendor must provide pricing for optional annual renewal years 4, 5,

and 6. Optional annual renewals will be initiated by the WVOT agreed to by the Vendor and executed via change order. Yes

4.3.1. Qualification and Experience Information: Vendor should describe in its proposal how it meets the desirable qualification and experience requirements listed below.

4.3.1.1 Vendor should have and provide at least three (3) examples demonstrating at least three (3) years of experience in project management. Vendor should provide a summarization of each project including goals and objectives, and references for each example.

US Veterans Affairs – IT Financial Mgmt, Apptio Bill of IT, Contact - Kurt DelBene - Department of Veterans Affairs (VA) Assistant Secretary for Information and Technology and Chief Information Officer (CIO). Apptio will provide contact information of a designee. Reference Attachments A, B, C & D for implementation scope.

Commonwealth of Virginia – Rate Setting, Bill of IT - Cynthia Edwards, CFO of IT, VITA, Commonwealth of Virginia - https://www.linkedin.com/in/cynthia-edwards-87019835 – Apptio will provide contact information of a designee. Reference Attachments A, B, C

US States Federal Reserve - Central IT and 12 Banks – Emily Rittenhouse - emily.rittenhouse@frb.gov - Rate Setting, Chargeback, Bill of IT (Specialized reporting 12 Banks) -

State of Washington – IT Financial Mgmt - Cammie Webster - https://www.linkedin.com/in/cammy-webster-21940287 - Apptio will provide contact information of a designee, Reference Attachments B.

University of Pennsylvania – ITFM, Bill of IT, 7 month implementation, Bill Kasenchar, IT Finance, https://www.linkedin.com/in/kasenchar – Use Case - Apptio is UPenn ISC's financial management system. Apptio Bill of IT is an automated billing system that consolidates invoices into one easy-to-use combined interface. ISC will demonstrate how Bill of IT let's you view and manage bills, drill down on invoices, and quickly export data to Microsoft Excel for further review and analysis. It also providers clients with important summary data and trends, such as YTD invoiced amount for top five services, applications and projects (if used) through a robust graphical dashboard.

4.3.1.2 Vendor should have and provide at least three (3) examples demonstrating at least three (3) years of experience in providing an ITFM solution of similar size and scope - 500 invoices per month. Vendor should provide a summarization of the projects including description of project, lessons learned from project, and implementation timeline , and references for each example.

Apptio has over 1,000 customers using our purpose built IT Financial Management System with the ATUM taxonomy.

University of Pennsylvania – ITFM, Bill of IT, 7 month implementation, Bill Kasenchar, IT Finance, https://www.linkedin.com/in/kasenchar – Use Case - Apptio is UPenn ISC's financial management system. Apptio Bill of IT is an automated billing system that consolidates invoices into one easy-to-use combined interface. ISC will demonstrate how Bill of IT let's you view and manage bills, drill down on invoices, and quickly export data to Microsoft Excel for further review and analysis. It also providers clients with important summary data and trends, such as YTD invoiced amount for top five services, applications and projects (if used) through a robust graphical dashboard.

State of Georgia and State of Texas (CapGemini manage for both states) use Apptio with an MSI model. ITFM and Bill of IT. I can provide contacts if desired.

Commonwealth of Virginia – (SAIC) – ITFM and Bill of IT, use Apptio with an MSI model. I can provide contacts if desired.

US States Federal Reserve - Central IT and 12 Banks – Emily Rittenhouse - emily.rittenhouse@frb.gov - Rate Setting, Chargeback, Bill of IT (Specialized reporting for central IT & 12 Banks) – Timeline < one year

State of Washington – IT Financial Mgmt - Cammie Webster - https://www.linkedin.com/in/cammy-webster-21940287 - Apptio will provide contact information of a designee, Reference Attachments B.

King County – ITFM, Bill of IT - Tanya Hannah, Director and **Chief Information Officer, new implementation and a good representation of level of effort on the new version of Apptio. 6 months implementation.**

4.3.1.3 The State desires an implementation specialist with at least three (3) years of experience in designing and implementing an ITFM system. Vendor should include a resume with its bid.

Joshua Roberto - https://www.linkedin.com/in/joshua-roberto

Experience

Principal Consultant
BoostTBM
Apr 2019 - Present · 3 years

Create and share useful TBM videos for our BoostTBM Youtube channel.
https://www.youtube.com/channel/UC99NuXKUcTFMTJO9vfVCXfA

Solve complex TBM Use Cases through innovative solutions and Apptio platform expertise.
Assist Apptio customers accelerate TBM initiatives and gain TBM adoption; provide assistance transitioning from deployment to production.
Implement TBM Methodology & Best Practices.

I welcome all inquiries regarding potential opportunities. Please feel free...

Show more

Co-Founder - Lead Product development team and strategy
HeyPeers
Jan 2018 - Present · 4 years 3 months

Apptio
5 years 1 month

Consulting Manager
Apr 2016 - Mar 2019 · 3 years
Raleigh-Durham, North Carolina Area
Manage teams of high-performing individuals, providing career growth, mentoring and coaching.

-Manager for Apptio's Global Data Engineering Group.
Key responsibilities include:
• Thought leadership for Data Engineering initiatives
• Reduce time-to-value and increase insights for Apptio customers
• Reduce the challenges of data collection, interpretation and automation
• Work with customers to provide guidance around data strategies and challenges.
• Expand the team...

Show more

TBM - Sr. Consultant
Mar 2014 - Apr 2016 · 2 years 2 months
Raleigh-Durham, North Carolina Area
- Advanced TBM Infrastructure Consulting, Data Modeling, and Analytics
- Consult on data aggregation, categorization, and IT resource consumption
- Advanced IT consumption modeling
- Prescriptive Analytics and Interpretation of Large Scale Data
- Advanced Data Center & Infrastructure metrics
- IT Financial Consulting
- Technology Business Management (TBM) platform implementation

4.3.1.4 Vendor should provide at least three (3) examples of pre-determined chargeback model that it has implemented within an ITFM solution.

University of Pennsylvania – ITFM, Bill of IT, 7 month implementation, Bill Kasenchar, IT Finance, https://www.linkedin.com/in/kasenchar – Use Case - Apptio is UPenn ISC's financial management system.

Apptio Bill of IT is an automated billing system that consolidates invoices into one easy-to-use combined interface. ISC will demonstrate how Bill of IT let's you view and manage bills, drill down on invoices, and quickly export data to Microsoft Excel for further review and analysis. It also providers clients with important summary data and trends, such as YTD invoiced amount for top five services, applications and projects (if used) through a robust graphical dashboard.

State of Tennessee – Rate Setting - Debbie Knox, CPA, CGFM | Manager, Management

Enterprise Governance & Administration - Debbie.C.Knox@tn.gov – Scope – Attachment B – 6 months

US States Federal Reserve - Central IT and 12 Banks – Emily Rittenhouse - emily.rittenhouse@frb.gov - Rate Setting, Chargeback, Bill of IT (Specialized reporting for central IT & 12 Banks) – Timeline < one year

State of Washington – IT Financial Mgmt - Cammie Webster - https://www.linkedin.com/in/cammy-webster-21940287 - Apptio will provide contact information of a designee, Reference Attachments B.

King County – ITFM, Bill of IT - Tanya Hannah, Director and **Chief Information Officer, new implementation and a good representation of level of effort on the new version of Apptio. 6 months implementation.**

4.3.1.5 Vendor should provide at least three (3) examples of a service rate catalog that it has implemented within an ITFM solution.

University of Pennsylvania – ITFM, Bill of IT, 7 month implementation, Bill Kasenchar, IT Finance, https://www.linkedin.com/in/kasenchar – Use Case - Apptio is UPenn ISC's financial management system. Apptio Bill of IT is an automated billing system that consolidates invoices into one easy-to-use combined interface. ISC will demonstrate how Bill of IT let's you view and manage bills, drill down on invoices, and quickly export data to Microsoft Excel for further review and analysis. It also providers clients with important summary data and trends, such as YTD invoiced amount for top five services, applications and projects (if used) through a robust graphical dashboard.

State of Tennessee – Rate Setting - Debbie Knox, CPA, CGFM | Manager, Management

Enterprise Governance & Administration - Debbie.C.Knox@tn.gov – Scope – Attachment B – 6 months

US States Federal Reserve - Central IT and 12 Banks – Emily Rittenhouse - emily.rittenhouse@frb.gov - Rate Setting, Chargeback, Bill of IT (Specialized reporting for central IT & 12 Banks) – Timeline < one year

State of Washington – IT Financial Mgmt - Cammie Webster - https://www.linkedin.com/in/cammy-webster-21940287 - Apptio will provide contact information of a designee, Reference Attachments B.

King County – ITFM, Bill of IT – Tanya Hannah, Director and Chief Information Officer, new implementation and a good representation of level of effort on the new version of Apptio. 6 months implementation.

4.3.2.1 Vendor must provide one (1) example demonstrating implementation support related to API integrations.

Commonwealth of Virginia – Rate Setting, Bill of IT - Cynthia Edwards, CFO of IT, VITA, Commonwealth of Virginia - https://www.linkedin.com/in/cynthia-edwards-87019835 – Apptio will provide contact information of a designee. Reference Attachments A, B, C

Sample Solutions design document attached – Attachment K; Sample State Use Case – Geneal Ledger, Vendor Invoicing

4.3.2.2 Vendor must provide three (3) examples demonstrating working with Government Agencies. Vendor should provide a summarization of each project.

US States Federal Reserve - Central IT and 12 Banks – Emily Rittenhouse - emily.rittenhouse@frb.gov - Rate Setting, Chargeback, Bill of IT (Specialized reporting for central IT & 12 Banks) – Timeline < one year

State of Washington – IT Financial Mgmt - Cammie Webster - https://www.linkedin.com/in/cammy-webster-21940287 - Apptio will provide contact information of a designee, Reference Attachments B.

King County – ITFM, Bill of IT - Tanya Hannah, Director and Chief Information Officer, new implementation and a good representation of level of effort on the new version of Apptio. 6 months implementation.

Table of Contents for Attachments

Name	Description	Attachment
Apptio TBM for the Public Sector	An automated TBM solution enables public sector organizations to realize the value of IT financial transparency and clearly demonstrate the impact of IT investments. In addition, Apptio provides a Bill of IT to your constituent agencies.	A
Service Description Cost Transparency Foundation	Statement of Work for Cost Transparency	B
Service Description Bill of IT	Statement of Work ApptioOne Billing	C
Service Description Apptio Targetprocess	Statement of Work - Workflow, Invoice Dispute Workflow, TimeSheets, Invoice Incident Workflow	D
Apptio TBM Studio	Apptio TBM Studio is built to manage the business of technology and includes everything you need to transform raw data into actionable analytics for your entire organization. Apptio TBM Studio is designed to be familiar to Excel users with a common ribbon-based toolset and a drag-and-drop design surface requiring no specialized skills like database administration or software development expertise.	E
Apptio Datalink	Easily automate the ingestion of data from virtually any source system, such as SAP, Oracle, Amazon Web Services, and ServiceNow, through our library of intelligent connectors. Schedule connectors to pull data in on a regular basis, such as month-end close, and receive alerts and notifications when connectors complete an upload.	F
ApptioOne Billing Datasheet	ApptioOne Billing, IT bills are calculated using your service catalogue, service rates, and business consumption data. Institute showback or chargeback knowing the numbers you use will be understood and agreed to by the business.	G
Apptio Cost Transparency Foundation	Cost Transparency Foundation: Provide financial transparency of IT costs across Accounts, Cost Pools, and IT Towers, Vendors, and Projects. Automate and operationalize monthly cost analysis and reporting of spend against budget.	H
Technical Architecture Solution	Draft Solutions architecture for State of West Virginia	I
Sample Solutions Architecture	Sample Solutions document from another State	J
6 Best Practices for Allocating IT Costs for the Public Sector	Cost allocation is an integral part of Technology Business Management (TBM), a category of software that brings the best practices of financial and performance management to the complex environment of IT. ATUM Taxonomy is also included In this attachment.	K
State of West Virginia Documents for Signature	Required State of West Virginia signed documents	L

Apptio TBM for the Public Sector	**An automated TBM solution enables public sector organizations to realize the value of IT financial transparency and clearly demonstrate the impact of IT investments. In addition, Apptio provides a Bill of IT to your constituent agencies.**	**A**

Datasheet

APPTIO

Apptio is TBM for the Public Sector

Align Resources. Reduce Risk. Maximize Mission Objectives.

Technology enables transformation

But connecting IT investments to the value they deliver can be challenging.

- Spreadsheets are error-prone and time-consuming
- Custom solutions built by consultants aren't standardized or automated and cost too much in time and money

For over a decade Apptio has worked with hundreds of the world's largest agencies and companies to unlock insights and drive mission objectives. With SaaS solutions designed around the Technology Business Management (TBM) framework, find out what is possible for your organization when you start to run IT like a business.

Federal governments

Federal agencies are modernizing their IT footprint without sacrificing mission deliverables and TBM is helping to meet these goals. Agencies are able to quickly understand cost drivers across commitments and obligations and reallocate budget to higher value projects.

Many agencies across the government are already leveraging Apptio to make smarter decisions with their IT investments. With our recent JAB P-ATO FedRAMP certification, we're poised to engage and demonstrate value quickly.

State, city and county governments

State, city and county CIOs live at the nexus of pressure from citizens wanting more services and legislators facing continuous budget pressures. Fortunately they also realize the potential role modern IT can play in the solution.

Whether it's shared services, cloud adoption, security & risk management, or more; Apptio has spent years helping these agencies make the data-driven decisions that deliver results.

Higher education

The IT challenges of higher education aren't different from other public sector organizations — they just typically have less funding. TBM has proven to be a critical practice for gaining visibility across IT investments and developing a budget based on responsibility centers.

Key Benefits

- **Create** a common language across CIO, CFO and agency/division leaders to make fact-based decisions
- **Understand** true application TCO across on-premises and cloud-based environments
- **Deploy** cost recovery solutions that empower agencies to optimize their IT spend

"With TBM, the General Services Administration (GSA) has been able to cut over $100M per year from our IT budget."

Dave Shive,
CIO, GSA

"We use TBM as the common language to bring together the CIO and CFO from 44 state agencies to talk about their business."

Cammy Webster,
Office of the CIO, State of Washington

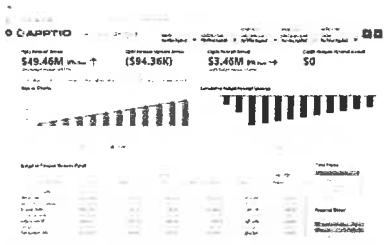
"We've now implemented a full chargeback model across the university incorporating 65 different services."

Kirk Trasborg,
Exec Dir. IT Shared Services,
University of Pennsylvania

Budget Planning & Execution

Create and update your budget in weeks, not months

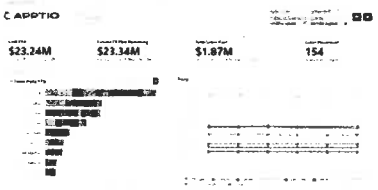
- Reduce the time spent forecasting, accelerate frequency, and redirect resources to higher-value activities.
- Enable multi-year and "what if" scenario planning
- Role-based collaboration and workflow ina unified budget
- Build OMB-compliant budgets using TBM taxonomy



Cost Transparency & Insights

Spend the appropriation or redirect it — don't lose it

- Implement a structured view of IT expenses for actuals and plans based on industry-standard framework
- Lower overall IT spend by reducing waste, eliminating duplications, and aligning investments to strategic priorities.
- Enable faster ad hoc analysis and budgeting cycles
- Free up Ops & Maintenance spend and accelerate Development, Modernization & Enhancement spend
- Track burndown and identify variances across budget, commitments, obligations and expenses
- Easily report on OMB guidelines for TBM adoption



Setting IT Service Rates

Drive behavior with the right rates

- Recover costs with service rates based on actual execution or planned spend
- Price rates strategically to influence utilization of the services
- Benchmark your service rates against other organizations

Billing for IT Services

Professional, consistent, defensible

- Confidently implement a chargeback or show back model
- Eliminate the notion that "IT is free"
- Improve communications with the rest of the organization based on real data
- Create a better relationship between IT and the organization

Get Started

Apptio gives you the power of trusted, actionable insights to connect your technology investment decisions to drive better business outcomes. Many of the world's largest agencies and companies trust Apptio to manage spend across the entire IT portfolio and beyond so they can focus on delivering innovation. Apptio intelligently structures vast amounts of technology spend and enterprise operational data to deliver actionable insights that business, finance, and technology leaders can use to work better together. Apptio helps you capture ideas and prioritize work, embrace the cloud, and optimize your technology investments with confidence.

Learn more at Apptio.com/get-started

Service Description Cost Transparency Foundation	**Statement of Work for Cost Transparency**	**B**

STATE OF WEST VIRGINIA
COST TRANSPARENCY Foundation only within scope

APPTIO JUMPSTART SERVICE: COST TRANSPARENCY
(MODULES: FOUNDATION, ~~APPLICATIONS & SERVICES, AND BUSINESS UNITS~~)

1.0 SCOPE OF PROFESSIONAL SERVICES

Apptio will perform the Professional Services set forth herein to deploy the Apptio Cost Transparency Foundation, Application & Services, and Business Units modules, which will help enable, facilitate, and support Subscriber's efforts to translate IT spend from a financial accounting view to a view reflective of standard IT Towers, Vendors, Projects, Applications, Business Services, and Business Units. Professional Services will be delivered in two (2) workstreams as follows:

- **Cost Transparency Foundation**: Provide financial transparency of IT costs across Accounts, Cost Pools, and IT Towers, Vendors, and Projects. Automate and operationalize monthly cost analysis and reporting of spend against budget. (STATE OF WEST VIRGINIA)
- ~~**Cost Transparency Applications & Services and Business Units**: Allocation of costs to Applications, Business Services, and Business Units, including dashboard reporting for cost analysis.~~

Apptio's delivery methodology consists of three (3) phases: Initiate, Configure, and Rollout. The Initiate phase will be performed once, at the beginning of the project. The Configure and Rollout phases will be repeated for Workstreams 1 and 2. The following sections describe the scope of the Professional Services to be performed and the planned duration of each workstream and phase. Subscriber must complete certain tasks in accordance with the Project Schedule in order for Apptio to complete this Jumpstart Service within the estimated timeline and quoted price.

INITIATE	PLANNED DURATION: 3 WEEKS
APPTIO RESPONSIBILITIES	➢ Conduct Introduction Call ➢ Finalize Project Schedule and Project Management Plan ➢ Conduct Project Kickoff Meeting and review data requirements ➢ Conduct workshop to determine allocations strategies and data to be used for the allocation of OpEx spend to Business Units ▪ Business Unit allocations will utilize up to three types of allocation strategies (e.g. headcount, application licenses, mailbox size) ▪ Identify data requirements to support desired Business Unit allocation strategies ➢ Mentor Subscriber Technology Business Management Analyst (TBMA) on data load process ➢ Configure initial data mapping and modeling ➢ Provide visibility into data quality via Data Quality Owner Dashboard
SUBSCRIBER RESPONSIBILITIES	➢ Assign core project team (Project Manager and TBMA(s)) prior to the Introduction Call ➢ Subscriber Project Manager participates in Introduction Call ➢ Identify Stakeholders/Subject Matter Experts (Finance, Office of CIO, IT Ops, and Service Managers) prior to Project Kickoff Meeting ➢ Core project team attends Project Kickoff Meeting, including data requirements review

	➢ Commitment of Subscriber project resources to support execution of Project Schedule and Plan ➢ Gather the following required data sets in a consumable format (.CSV or .TSV) within one (1) week of Project Kickoff Meeting: ▪ Number of fiscal years: up to two (2) ▪ Cost Source – OpEx and CapEx Actuals (up to three (3) General Ledgers) ▪ Cost Source – OpEx and CapEx Budget (up to three (3) budget files) ▪ List of Cost Centers and Chart of Accounts for each General Ledger (GL) ▪ Fixed Assets Register ▪ Infrastructure Volume Counts by IT Sub-Tower ▪ Actual and Planned Headcount by Cost Center ▪ List of Projects with Attributes/Metadata, including Budget ▪ List of Vendors ➢ Gather the following required data sets in a consumable format (.CSV or .TSV) within five (5) weeks of Project Kickoff Meeting: ▪ List of Servers ▪ List of Storage Pools and Arrays ▪ Storage Pool to Server Mapping or Storage Pool to Application Mapping ▪ List of Applications ▪ Server to Application Mapping ▪ List of Business Services (optional) ▪ List of Business Units ➢ Subject Matter Experts (SMEs) provide inputs for Business Unit allocation strategies in a timeline consistent with the Project Schedule ▪ Gather data to support the desired Business Unit allocation strategies within five (5) weeks of Project Kickoff Meeting ➢ TBMA loads data sets using standard Apptio data upload interface ➢ TBMA(s) must attend the Apptio Studio and Cost Transparency courses, as offered by Apptio University. Apptio University Training is available for an additional fee and is not included as part of these Professional Services.
APPTIO DELIVERABLES	➢ Project Schedule ➢ Project Management Plan ➢ Project Kickoff Presentation ➢ Data Quality Owner Dashboard ➢ Technology Business Management (TBM) Office Overview, with Role Descriptions

1.1 WORKSTREAM 1: COST TRANSPARENCY FOUNDATION

CONFIGURE	PLANNED DURATION: 5 WEEKS
APPTIO RESPONSIBILITIES	➢ Conduct workshop to perform the following activities: ▪ Review standard model configuration ▪ Review allocation decisions ▪ Review standard reports

	➢ Configure Cost and Budget models to support allocation of OpEx spend to Labor, Fixed Assets, Vendors, and IT Towers/Sub-Towers: and configure Cost and Budget models to support allocation of CapEx spend to Vendors and Projects: ▪ Model will use the standard Apptio TBM Unified Model™ (ATUM™) Cost Pool and IT Tower/Sub-Tower taxonomy and recommended allocation strategies ▪ Up to three (3) General Ledgers will be the source of financial data ▪ If the General Ledgers contain multiple currencies, financial data will be converted to a single currency using Subscriber provided currency conversion table ▪ Data will be modeled, displayed and reported in a single currency ▪ Data will be modeled for current and previous fiscal years. Model design and allocation strategies will be identical across fiscal years. ▪ Allocation of cost sources to IT Towers will be based on direct mappings of GL cost centers to IT Towers. Where no relationship exists, or if all data is not received per the Project Schedule, documented assumption based cost allocations will be configured. ➢ Work with Subscriber to configure Single Sign-On (SSO) for user authentication into the application: ▪ Subscriber SSO solution must be based on Security Assertion Markup Language (SAML) protocol ▪ User roles for the application will be managed within the application ➢ Configure role based security to manage access to administrator privileges within the application ▪ Default security rules will be applied for reports ➢ Provide overview of dashboard navigation to support Cost Transparency Foundation operational processes ➢ Work with Subscriber core project team to validate configured application and remediate issues. Validation activities will focus on cost data flowing throughout the model and a review of allocation strategies. ➢ Support Subscriber's Executive Review of application and reports ➢ Prepare and provide an initial TBM Roadmap ➢ Prepare Data and Allocations Workbook, providing documentation of as-configured application ➢ Prepare Operational Run Book, documenting monthly data load and validation processes to support production rollout ➢ Work with Subscriber to prepare for production rollout
SUBSCRIBER RESPONSIBILITIES	➢ TBMA works with Apptio resources on configuration of the standard model and reports ➢ Subject Matter Experts (SMEs) provide inputs for allocation strategies in a timeline consistent with the Project Schedule ➢ SMEs review dashboard reporting ➢ Conduct Executive Review of application and reports ➢ Subscriber core project team reviews and validates configured application. Validation activities will focus on cost data flowing throughout the model and a review of allocation strategies. ➢ Work with Apptio to configure SSO for user authentication into the Apptio system:

	▪ Subscriber will provide access to the necessary SMEs to the corporate Lightweight Directory Access Protocol (LDAP)/Active Directory environment required to configure SSO ▪ Subscriber SSO solution is based on SAML protocol ➢ TBMA works with Apptio to prepare for production rollout
APPTIO DELIVERABLES	➢ Configured Cost and Budget models ➢ IT Management and IT Finance Dashboards, including: OpEx analysis of Accounts/Cost Centers, Cost Pools, IT Towers/Sub-Towers, and Vendors; and CapEx analysis of Vendors and Projects ➢ TBM Dashboard ➢ SSO Configured ➢ Data and Allocations Workbook ➢ Operational Run Book ➢ TBM Roadmap

ROLLOUT	PLANNED DURATION: 2 WEEKS
APPTIO RESPONSIBILITIES	➢ Work with Subscriber to review the Apptio TBM Calendar that maps report usage to recurring processes such as: project reviews, quarterly business reviews (QBRs), quarterly forecasts, and annual reviews ➢ Conduct one (1) 4-hour knowledge transfer session with Subscriber TBMA: ▪ Provide mentoring and enablement on the configuration and maintenance of the application ▪ Provide mentoring on the navigation and operational usage of the application ▪ Project documentation will be provided to Subscriber at this time ➢ Work with Subscriber to promote application to the production environment
SUBSCRIBER RESPONSIBILITIES	➢ Work with Apptio to review Apptio TBM Calendar ➢ Subscriber TBMA conducts End-User Training ➢ Subscriber TBMA attends knowledge transfer session, as conducted by Apptio ➢ Subscriber TBMA works with Apptio to promote application to the production environment
APPTIO DELIVERABLES	➢ Apptio TBM Calendar ➢ Knowledge transfer session delivered ➢ Configured application available within the production environment

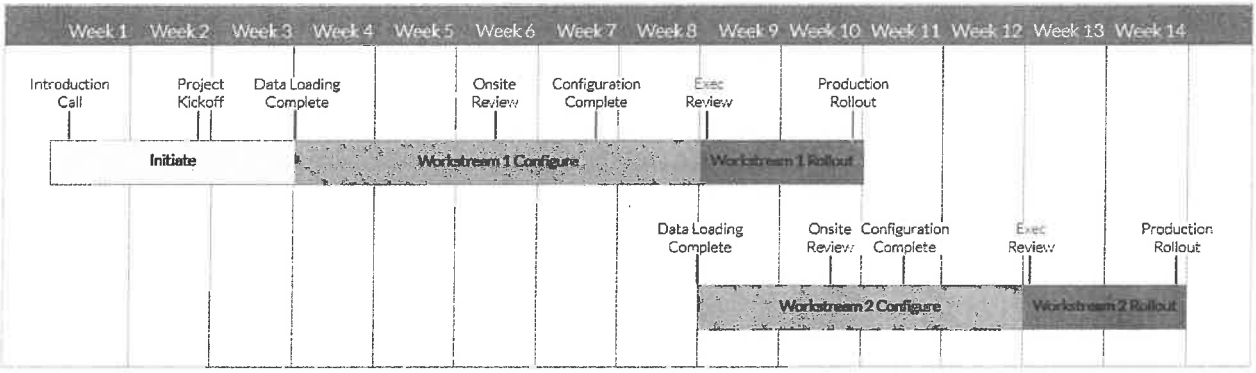
1.2 WORKSTREAM 2: COST TRANSPARENCY APPLICATIONS & SERVICES AND BUSINESS UNITS

CONFIGURE	PLANNED DURATION: 4 WEEKS
APPTIO RESPONSIBILITIES	➢ Conduct workshop to perform the following activities: ▪ Review standard model configuration ▪ Review allocation decisions ▪ Review standard reports

	➢ Configure Cost and Budget models to support allocation of OpEx spend to Applications and Business Services: ▪ Data will be modeled, displayed, and reported in a single currency ▪ Data will be modeled for current and previous fiscal years. Model design and allocation strategies will be identical across fiscal years. ▪ Allocation strategies will incorporate asset and operational data for servers and storage only ▪ Where no data relationship exists, or if all data is not received per the Project Schedule, documented assumption based cost allocations will be configured ▪ Subscriber will provide existing list of Business Services. If Subscriber does not have a list of Business Services, Applications, or groupings of Applications (as provided by Subscriber) will be considered as Business Services. ➢ Configure Cost and Budget models to support allocation of OpEx spend from Business Services to Business Units. ▪ Allocation of Business Services costs to Business Units will utilize up to three types of allocation strategies (e.g. headcount, application licenses, mailbox size), as defined within the Initiate phase of this project ➢ Work with Subscriber core project team to validate configured application and remediate issues. Validation activities will focus on cost data flowing throughout the model and a review of allocation strategies. ➢ Support Subscriber's Executive Review of application and reports ➢ Update Data and Allocations Workbook, providing documentation of as-configured application ➢ Update Operational Run Book, documenting monthly data load and validation processes to support production rollout ➢ Work with Subscriber to prepare for production rollout
SUBSCRIBER RESPONSIBILITIES	➢ TBMA works with Apptio resources on configuration of the standard model and reports ➢ SMEs provide inputs for allocation strategies in a timeline consistent with the Project Schedule ➢ SMEs review dashboard reporting ➢ Conduct Executive Review of application and reports ➢ Subscriber core project team reviews and validates configured application. Validation activities will focus on cost data flowing throughout the model and a review of allocation strategies. ➢ TBMA works with Apptio to prepare for production rollout
APPTIO DELIVERABLES	➢ Configured Cost and Budget models ➢ IT Management and IT Finance Dashboards, updated to include OpEx analysis of Applications, Business Services, and Business Units ➢ IT Applications/Service Owner Dashboard, including OpEx analysis of Applications and Services ➢ Updated Data and Allocations Workbook ➢ Updated Operational Run Book

ROLLOUT	PLANNED DURATION: 2 WEEKS
APPTIO RESPONSIBILITIES	➢ Conduct one (1) 4-hour knowledge transfer session with Subscriber TBMA: ▪ Provide mentoring and enablement on the configuration and maintenance of the application ▪ Provide mentoring on the navigation and operational usage of the system ▪ Updated project documentation will be provided to Subscriber at this time ➢ Work with Subscriber to promote application to the production environment
SUBSCRIBER RESPONSIBILITIES	➢ Subscriber TBMA conducts End-User Training ➢ Subscriber TBMA attends knowledge transfer session, as conducted by Apptio ➢ Subscriber TBMA works with Apptio to promote application to the production environment
APPTIO DELIVERABLES	➢ Knowledge transfer session delivered ➢ Configured application available within the production environment

2.0 PLANNED PROJECT SCHEDULE AND MILESTONES



3.0 PROJECT RESOURCES

The following establishes the Apptio and Subscriber roles and responsibilities for this engagement. Subscriber must assign a resource, prior to the Introduction Call, with the adequate and appropriate skillset to successfully perform the TBMA role on a full-time basis for the project duration.

SUBSCRIBER ROLE	RESPONSIBILITIES	TIME ESTIMATE
Executive Sponsor	Promote, champion, and escalate project within organization	5% FTE
Project Manager	Day to day project management, including status reporting and issue resolution	50% FTE
Stakeholders/Subject Matter Experts *(Finance, Office of CIO, IT Ops, Service Managers)*	Domain knowledge, input on allocation strategies, and review application configurations	5-10% per SME

Subscriber Role	Responsibilities	Time Estimate
TBMA	Data acquisition, transformation, and validation. Data and model design; Model and report configuration; Application configuration review and validation; and training and roll-out	80-100% FTE

Apptio Role	Responsibilities
Engagement Manager	Leads project activities, completes project management deliverables, and facilitates cross-functional team work in accordance with Apptio's proven TBM methodology
Technical Lead	Provides leadership on TBM best practices and guides work on allocation strategies aligned to standard taxonomy
Configuration Consultant	Configures models and reports in Apptio application

Service Description Bill of IT	**Statement of Work ApptioOne Billing**	**C**

APPTIO JUMPSTART SERVICE:
BILL OF IT STANDARD

Apptio Jumpstart Service: Overview

Apptio will perform the Professional Services described in the Bill of IT Standard package set forth herein to configure the Bill of IT solution. The Professional Services will follow an iterative, workshop-based approach to implement the configured functionality set forth in Table 1:

Table 1

Configuration Iteration Name	Configured Functionality	Associated Apptio Product Module
Finance Foundation	Define chargeback model and automate data inputs	Bill of IT
	Establish variance analysis and reporting	Bill of IT
Service Units and Pricing	Model quantity of consumed services per Business unit	Bill of IT
	Price service details based on quantity or actual costs	Bill of IT
Business Unit Chargeback	Chargeback Business Unit consumption	Bill of IT
	Automate invoice to end users	Bill of IT

Project Tasks

Apptio's approach includes three (3) phases: Discover & Plan, Configure & Rollout, and Project Closeout.

Discover & Plan

In the Discover & Plan Phase, the project is initiated by an engagement kickoff, followed by discovery session(s) focused on gathering information about the Subscriber's organizational structure, current systems and business processes. Apptio will then work with Subscriber to identify the applicable Technology Business Management (TBM) use cases to be targeted for this deployment. Based on the use cases targeted, Apptio will identify and review the data needed for the project and reasonably assist the Subscriber in preparing the data required for the first configuration iteration.

Subscriber Tasks	Engagement Kickoff • Attend engagement kickoff meeting Discovery • Attend discovery session(s) to provide details on current systems, organizational structure, data, and business processes for use case prioritization • Respond to follow-up questions from discovery session(s) in a timely manner Gather Data • Gather and provide data required for first configuration iteration Project Plan • Review Project Plan
Apptio Tasks	Engagement Kickoff • Conduct engagement kickoff meeting Discovery • Conduct discovery session(s) to review current systems, organizational structure, data, and business processes • Review TBM processes and prioritize use cases for configuration iterations Gather Data • Provide guidance to Subscriber on gathering data required for project and first configuration iteration Project Plan • Develop Project Plan
Apptio Deliverables	Engagement kickoff meeting completed Project Plan Completion Criteria: Project Plan developed with up to two (2) cycles of incorporated Subscriber feedback.

Configure & Rollout

In the Configure & Rollout Phase, the Apptio consultant will lead the configuration activities and review the business logic and allocation decisions for each iteration. The Subscriber will participate in configuration to understand how the application(s) works, and receives guidance on how to validate the data, allocations, and reports. Each iteration will conclude with the Subscriber rollout of the configured functionality to support the targeted use cases, and data gathering for the next configuration iteration.

Subscriber Tasks	Setup and Administration • Provide necessary SSO information to Apptio consultant • Assist Apptio consultant with obtaining technical details to access data via DataLink • Validate DataLink Agent Configuration (per iteration) • Participate in configuration activities to deploy Bill of IT

	• Select allocation options based on Apptio best practices and Subscriber's input • Configure standard DataLink connectors for each dataset where applicable • Review standard reporting to demonstrate configured capabilities • Provide Apptio requirements for report modifications in advance of reporting workshop • Gather and provide data required for each configuration iteration Validation (per iteration) • Validate data, allocations, and reports Rollout (per iteration) • Complete a process walkthrough of TBM process with Subscriber stakeholders • Promote configured solution to the production environment • Prepare Launch Kit in support of rollout activities
Apptio Tasks	Setup and Administration • Create Bill of IT project and configure core project settings • Enable SSO based on Security Assertion Market Language 2.0 (SAML) protocol • Install and validate one (1) DataLink Agent Configuration (per iteration) • Work with Subscriber to configure Bill of IT capabilities, per use cases prioritized during the Discover & Plan Phase • Lead configuration activities based on Apptio's best practices • Provide recommended allocation options based on Apptio best practices and data collected • Assist Subscriber to configure DataLink connectors for each dataset where applicable • Review standard reporting to demonstrate configured capabilities • Conduct one (1) reporting workshop that is up to two (2) hours in length with Subscriber to modify standard reports based on Subscriber requirements • Provide guidance to Subscriber on gathering data required for each configuration iteration Validation (per iteration) • Provide guidance on how to validate data, allocations, and reports Rollout (per iteration) • Provide guided support for process walkthrough with stakeholder • Work with Subscriber to promote configured solution to the production environment • Provide Apptio Launch Kit
Deliverables	Bill of IT solution configured in the production environment to support the following Bill of IT Standard configuration iterations as defined in Table 1: • Finance Foundation • Service Units and Pricing • Business Unit Chargeback Completion Criteria: Apptio demonstrates configured functionality for each configuration iteration using available Subscriber Data.

Project Closeout

In the Project Closeout Phase, Subscriber will work with the Apptio team to complete the project. In addition, Subscriber and Apptio will work together to transition to Apptio's Customer Success program.

Subscriber Tasks	Runbook and Summary • Review Operational Runbook including Subscriber instructions for monthly data load and production promotion process • Review Summary & Recommendations Document based on existing state of the application Project Closeout • Review project closeout deliverables and confirm project completion with Apptio Transition to Apptio Customer Success • Attend final handover session to assume responsibilities for the system
Apptio Tasks	Runbook and Summary • Provide Operational Runbook using Apptio standard template with Subscriber instructions for monthly data load and production promotion process • Provide Summary & Recommendations Document based on existing state of the application Project Closeout • Complete any remaining open tasks related to project deliverables and confirm project completion with Subscriber Transition to Apptio Customer Success • Conduct final system handover session to transition responsibilities for the system to Subscriber
Deliverables	Operational Runbook Bill of IT Summary and Recommendations Document Completion Criteria: Operational Runbook and Bill of IT Summary and Recommendations Document provided with up to two (2) cycles of incorporated Subscriber feedback.

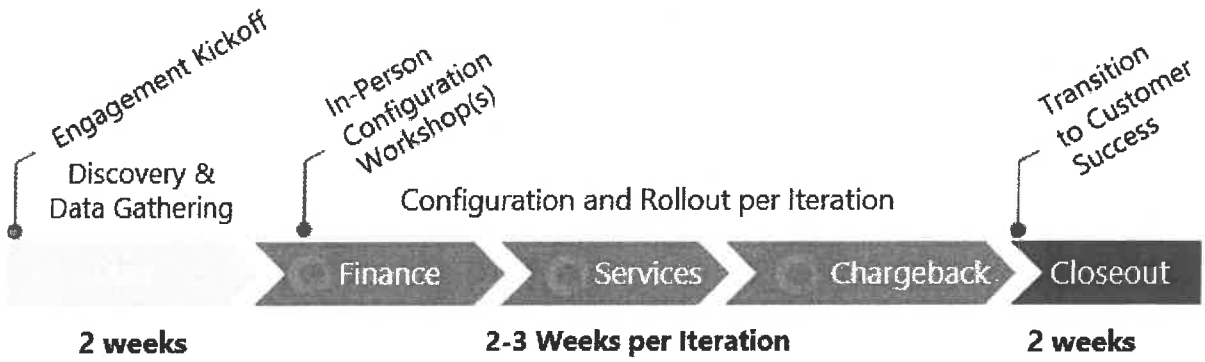
Data Expectations

Subscriber will provide and upload (with guidance from Apptio) datasets required for configuration. Expected data sources to be provided by Subscriber include, but are not limited to, the following:

Configuration Iteration Name	Expected Data Sources
Finance Foundation	• Budgets or General Ledger, as applicable • Defined Business Services • Service rates • Charge Adjustment
Service Units and Pricing	• Service consumption feed(s)
Business Unit Chargeback	• Business Unit Hierarchy

Estimated Project Timeline

The figure below illustrates the estimated timeline with suggested iteration phases:



In-Person Configuration Workshops can be held at one of Apptio's locations or at Subscriber's location.

Project Team

Subscriber Roles and Responsibilities

The table below outlines the roles from the Subscriber's organization that are critical for a successful Apptio implementation. To successfully complete these Professional Services, Subscriber agrees to perform the responsibilities defined below:

Subscriber Role	Responsibilities	Time Estimate
Project sponsor	• Assign core project team (project manager and TBMA(s)) and identify key stakeholders and subject matter experts prior to the project kickoff. • Promote, champion, and escalate project with organization. • Participate in Use Case Alignment, Engagement Kickoff, and Executive Reviews.	5% FTE during project
Project manager	• Manage project day-to-day in conjunction with Apptio. • Monitor progress and resolve issues. • Make decisions with input from various stakeholders within Subscriber's organization.	25% FTE during project
Technology Business Management Analyst (TBMA)	• Complete separately purchased Apptio University training prior to project kickoff. • Acquire and validate data from various departments. Load data into the Apptio solution. • Validate data, allocations, and reports after each configuration step. • Maintain Apptio solution on an on-going basis (such as continue data uploads or update allocation strategies as business needs require).	75% FTE during project
Process owner	• Provide direction and input on integrating the Apptio solution into the Subscriber's TBM processes. • Support process execution on an on-going basis.	20% FTE during project
Key stakeholders and subject matter experts	• Provide data as requested by the TBMA(s). • Assist TBMA(s) in understanding the data and its structure. • Validate relevant data and reports as requested by the TBMA(s).	10% FTE during project

Apptio Roles and Responsibilities

Following are the roles and responsibilities of the Apptio resources:

Apptio Role	Responsibilities
Engagement Manager	• Leads Apptio project activities in accordance with Apptio's proven TBM methodology, completes project management deliverables, and facilitates cross-functional teamwork.
Configuration Consultant	• Configures models and reports in Apptio solution.

Project Assumptions

- Subscriber must have an active, ongoing subscription to Apptio Bill of IT.
- Apptio standard application functionality and reports will be deployed. Subscriber will use the standard ATUM taxonomy, model, and data structure.
- Data will be modeled for current and up to one (1) prior fiscal year. Model design and allocation strategies will be identical across fiscal years.
- Subscriber Executive Sponsor (or delegate) and Apptio will mutually agree on a Project Plan during the Discover & Plan Phase which will finalize the configuration iterations and project timeline.
- Subscriber is responsible for providing sufficient resources (in number, availability, and skill set) to carry out the Subscriber Responsibilities described above in accordance with the agreed project timeline.
- Subscriber is responsible for all end user training and rollout activities.
- Configuration of each iteration is subject to and dependent upon Subscriber having sufficient data and resources to complete the solution configuration task at the relevant point during project timeline. When data is not available, assumptive allocation strategies following best practices will be used. Rework of configuration due to delayed data is subject to the change request process.
- Apptio will deploy only the configured functionality described for each configuration iteration as defined in Table 1. Effort required for additional capabilities and outcomes are subject to the change request process.
- Apptio will configure up to three (3) data sets per each expected data source. For clarity, up to three (3) General Ledgers or Budgets will be the source of financial data for this deployment.
- Apptio will include up to 15 different consumption feeds when billing Business Units for their use of Business Services. Each consumption feed will be based on the same type of information over time (e.g. by headcount, by utilization)
- If financial data contain multiple currencies, data will be converted to a single currency using Subscriber provided current conversion table, and data will be modeled in a primary currency. Standard Apptio multi-currency functionality will be enabled for reports to output a converted local currency.
- Subscriber has SAML SSO solution and sufficient resources to complete SSO configuration.
- Configuration includes Charge and Budget models with detail for Service prices and, where Subscriber has an existing Cost Transparency Foundation, Applications and Services, and Business Units implementation, detail for actual costs.
- Travel Expenses (e.g. in-person workshops held at a Subscriber location) will be invoiced on a monthly basis in arrears. Payment terms are per the Agreement. For clarity, Subscriber is responsible for its own travel expenses where a workshop is held at an Apptio location.

Service Description Apptio Targetprocess	**Statement of Work - Workflow, Invoice Dispute Workflow, TimeSheets, Invoice Incident Workflow**	**D**

Apptio Implementation Service:

Targetprocess Advanced Onboarding

Deploy Apptio Targetprocess to support your existing framework within 8 - 12 weeks.

1. **Who is this service meant for?**

STATE OF WEST VIRGINIA

~~Customers who are implementing and scaling Agile across an organization and~~ require a comprehensive Targetprocess validation in consolidating various processes and flows in one system.

5

1

2. **Available Solution Areas**

Apptio will leverage our Professional Services team to focus on configuring solutions for up to **five (5)** of the following solution areas along with integration into JIRA or ADO for all applicable Team Processes, as well as other source systems used by Subscriber and available in Targetprocess stack. Targetprocess Onboarding is delivered in partnership with Subscriber via weekly working sessions where configuration and enablement activities are completed.

Solution Areas	Solution Components
People Organizational Structure	· SAFe Structure · Departments · Positions Management
Idea intake / Demand Management	· Ideas Collection · Lean Charter · Lean Business Case · People Demand
Goal Management	· OKR · PI Objectives · Sprint Goals
Budgeting	· Lean Budgeting · Budget Allocation · Cost Calculations · Expenses
Work Planning	· PI / Quarterly planning · Backlog Management · Roadmapping (Roadmap views) · Baselines · Estimation & Prioritization · WSJF / ICE / RICE
Capacity Planning	· PI Capacity Planning · Sprint Capacity Planning · What if capacity planning

Work Execution	· Kanban Boards · Quarter / PI / Iteration tracking Reports · Risk Management · Dependency Management · DoD / Acceptance Criteria · RAG State
Time Tracking	· Time Records · Time Sheets · Vacations
Test Management	· Test cases management · Test Plan Design
DevOps	· Incident Management
Team Level Support	· Scrum Team · Kanban Team
Release Management	· Builds · Quarterly Release Planning

3. Activities/Deliverables

What Apptio Will Do	What Subscriber Will Do
• Gather requirements and develop a design plan in support of the five (5) selected solution areas. • Configure Apptio Targetprocess Solution to support the five (5) selected Solution Area. • Provide guidance and support for data Integration for applicable source systems needed to support Solution Areas • Demonstrate applicable End-User relevant features for Subscriber's core project team. • Conduct necessary knowledge transfer required to ensure ongoing operational success of Targetprocess. • Conduct a Discovery and Scoping workshop at the completion of Onboarding (if required) to capture solution areas that Subscriber would like to retain Apptio's implementation team to support.	• Provide necessary resources to support a collaborative implementation. This includes core team members, key Subject Matter Experts, and extended stakeholders as required to attend workshops and meetings. • Accelerate data collection and automation by introducing Apptio consultants to system owners with expediency. • Attend Power-User feature training sessions. • Conduct data and process validation with guidance from the Apptio team. • Assign a Knowledge Manager who will be responsible for coaching and training end users on using Targetprocess to achieve business processes, outcomes, and goals. • Participate and confirm completion of Onboarding through a project close-out and transition event.

Key Milestones

- Project Kick-off
- Miro Board Process Design (via Discovery Workshop)
- Data Integration to applicable Source Systems
- Apptio Targetprocess configured with three (3) solution areas
- Enablement & Training to Power Users
- Discovery and Scoping Workshop for additional Solution Areas (if required)
- Knowledge Transfer & Project Closeout

4. Resourcing

To complete the implementation activities in a timely manner, Apptio requires weekly collaboration with Subscriber resources as described below.

Subscriber Role	Responsibilities
Sponsor/Champion	Establish goals, objectives, and desired outcomes for the project. Champion the Apptio implementation across the organization and drive focus and product usage upon rollout.
Targetprocess Administrator	Become the resident expert on the Targetprocess solution, by working closely with our Professional Services team to learn what is required to proficiently manage and scale the solution for your organizational needs.
Key stakeholders and subject matter experts	Apptio may need access to systems and data experts during the project and recommends meeting with key stakeholders to validate results and direction.
Knowledge Manager	Responsible for learning Power User functionality within Targetprocess solution to support end user training, enablement, and team onboarding activities across the organization.

Apptio Role	Responsibilities
Engagement Manager	Supports solution design, solution area configuration, and training for Targetprocess
Technical Consultant(s)	Supports advanced automation rules and data integration scripting.

5. Additional Considerations

- Subscriber will need to prioritize the following tasks that are critical to delivering a successful Onboarding Experience:
    - **Data Source Availability** – Apptio will guide Subscriber on which data sources and data elements are needed for the Targetprocess solution. Subscriber is expected to provide support in identifying SME's within Subscriber's organization to obtain those sources in a timely manner.
    - **Resource Availability** – Subscriber is expected to provide the necessary resources during the Onboarding. Apptio will help guide Subscriber on what those resources are and when they are needed during the Onboarding experience.
- Expected duration of Targetprocess Onboarding is 8 - 12 weeks. If the project extends beyond that timeline, and there are delays driven by a lack of Subscriber's engagement, data availability, or the need for additional

solution areas that affects the level of effort to complete the Onboarding, then Apptio may require a paid Change Request.

- All Solution Components in a specific Solution Area may not be required to facilitate Subscriber's needs. Apptio will work with Subscriber during the Design Phase to enable the right components to meet their needs.
- Apptio anticipates most configuration work will be conducted remotely. In the event Apptio incurs travel expenses due to on-premises engagements, Apptio will invoice these additional expenses separately on a monthly basis in arrears. Payment terms are per the Agreement.

Apptio TBM Studio	**Apptio TBM Studio is built to manage the business of technology and includes everything you need to transform raw data into actionable analytics for your entire organization. Apptio TBM Studio is designed to be familiar to Excel users with a common ribbon-based toolset and a drag-and-drop design surface requiring no specialized skills like database administration or software development expertise.**	**E**

APPTIO

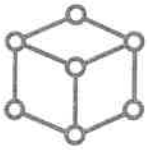
Apptio TBM Studio

Turn raw data into actionable analytics for your entire IT business

Overview

Apptio TBM Studio has everything you need to support your Technology Business Management (TBM) initiatives. With its intuitive, project-based interface, Apptio TBM Studio enables you to streamline manual tasks like managing data freshness and relationship mapping, configuring and maintaining cost models, and creating interactive reports and analytics that deliver relevant insight. Apptio TBM Studio has all the essential capabilities required for effective TBM with Data Studio, Model Studio and Report Studio.

Transform raw data into actionable analytics



TBM Studio

Report Studio

Customize standard reports or create your own with interactive analytics that deliver the insights your teams need to run their business.

Data Studio

Know what data to you need and automate its upload on the schedule you set. Apptio's guided intelligence engine will discover logical relationships in your data so you can map it to standard cost pools and towers.

Model Studio

Start with a cost model based on an industryapproved classification of technology costs and visualize how costs flow from source to destination through the model based on your configurable allocation strategy.

Key Features and Benefits

EASY TO USE NAVIGATION:

- Drag and drop design functionality and intuitive interface – no database admin skills required
- Ribbon-based tools and configuration options that are familiar to spreadsheet users
- Ability to edit multiple project documents simultaneously for data, models and reports
- Global search and filtering of documents from a central location using Project Explorer
- Role assignments that restrict access to certain applications and projects
- Calculation controls that let you determine what and when to run model calculations
- Built-in project promotion that allows you to manage dev, test and production environments and validation lifecycle

BUILT TO SCALE:

- Check-in/Check-out functionality that permits multiple analysts to work simultaneously without editing conflicts
- Time period versioning that allows for the maintenance of multiple versions of your data and model
- A variety of currency and number format options for global business management

Data Studio

Data Studio provides you with the tools you need to identify the most critical data for your model and let you automate its upload on a regular schedule. Apptio's intelligent inference engine enables total data integration and systematic tracking of data gaps to allow you to enhance data source quality over time.

Identifying data sources, and integrating and aggregating numerous disparate data sources are typically reported as the most difficult part of any ITFM implementation.

(Source: Gartner*)

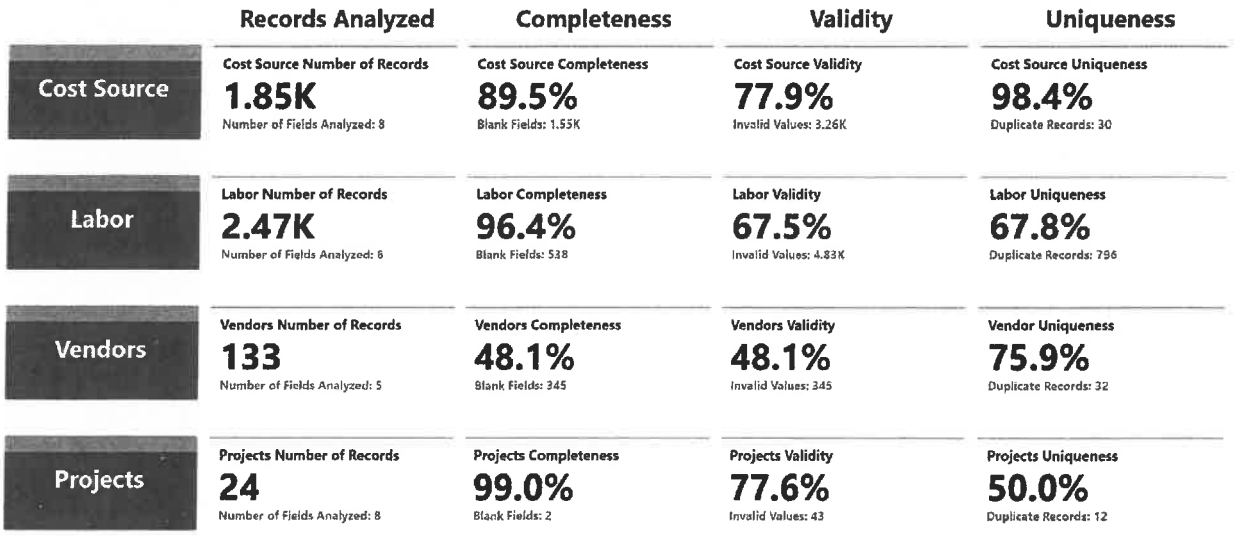


Figure 1: Built-in metrics help you evaluate data completeness and gaps and prioritize data quality improvement efforts.

Data Advisory

Find the data you need

Apptio's data advisory tool explains in detail the types of data required for your cost model and leads you to common sources where the data can be found.

- Identifies required, recommended and optional data
- Indicates specific data fields and formats needed
- Suggests common source systems that supply data
- Explains the effect emissing or incomplete data will have on your model

Data Management

Maintain accurate data

Apptio's intelligent data management system identifies correlations between data, provides a step-by-step visualization of adjustments and allows for automated data upload.

- Apptio's inference engine automatically discovers, builds and maintains relationships between disparate data sets
- Allows for import of any standard format data including .xls or CSV, or by copying and pasting tables
- Enables you to clean, validate, and calculate columns and view each change in a step-by-step data transform configurator
- Uses the Apptio TBM Unified Model™ (ATUM™) to organize costs in a standard framework

Data Enhancement

Improve data quality

Apptio's data validation tool lets you prioritize data quality improvements by highlighting data gaps and providing metrics that measure unallocated costs.

- Displays data status in a convenient dashboard to easily monitor data quality
- Quantifies the impact missing data will have on your model
- Measures the amount of unallocated costs

DataLink

DataLink automatically extracts and uploads data from internal sources such as flat files or spreadsheets and comes with direct connectors for several common source systems.

amazon web services™ Microsoft Azure bmc

CenturyLink™ servicenow vmware

Model Studio

Model Studio provides a standard, industry-approved framework for designing a credible, defensible cost model. Models are created in a clear, visual and systematic cost modeler with a graphical representation of cost categorization and details of how costs flow from source to destination based on your allocation configuration.

Through 2018, 40% of ITFM tool implementations will fail due to the lack of a clear mandate, bad data discipline and poorly designed cost models.

(Source: Gartner*)

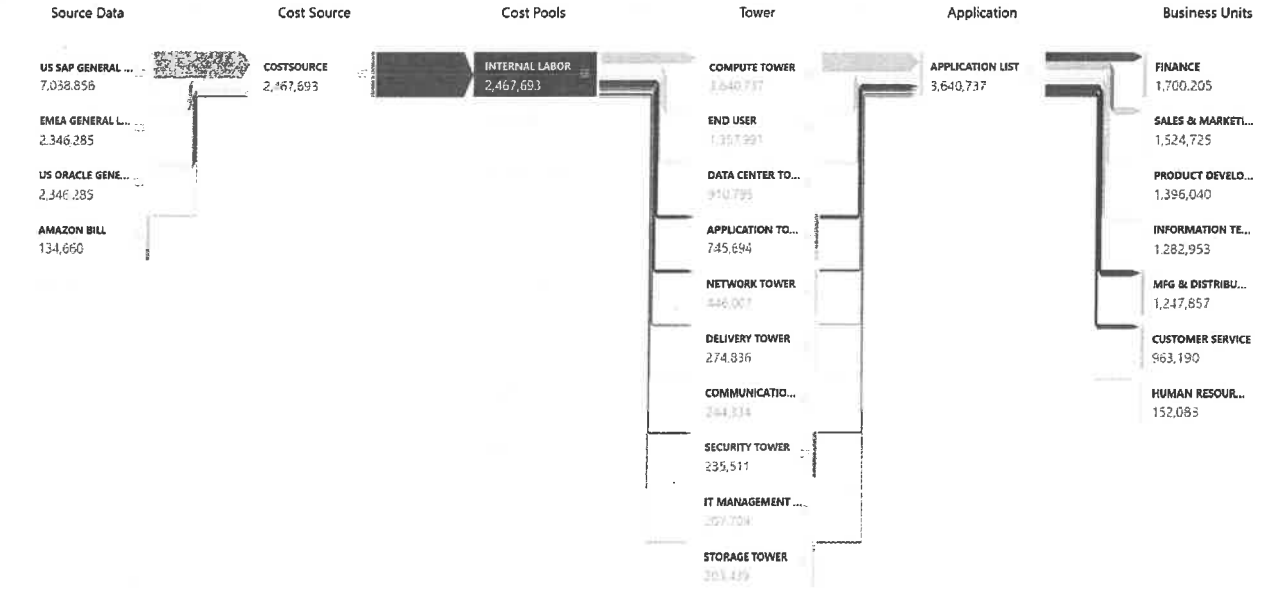


Figure 2: A left-to-right graphic visualization of cost allocations allow for a clear understanding of cost flows.

Model Creation & Management

Build a credible and flexible model

Based on an industry standard definition of costs, Apptio's model creation experience visually guides you step-by-step through the process of designing your model and selecting the allocation methods that best suit your business.

- Uses TBM council-endorsed metrics and the standard ATUM™ framework for model configuration
- Provides a step-by-step, visually guided model development experience
- Uses IT operational data to route costs by relationship and create allocation rules based on your available data - from assumptive strategies to more sophisticated consumption-based allocations
- Allows for the creation of multiple time-aware versions facilitating changes in your cost strategy without invalidating past insights

Model Visualization

See the impact of changes to your model

Apptio's visual cost modeler provides a highly visual illustration of where and how costs are apportioned. This allows you to quickly observe the impact of individual changes to the model and helps you easily document, view and explain cost allocations.

- Displays the flow of costs graphically
- Quantifies each cost allocation visually
- Reveals tracing for all cost routings and calculations
- Calculates based on individual updates so you can track and evaluate specific changes

Apptio Datalink	**Easily automate the ingestion of data from virtually any source system, such as SAP, Oracle, Amazon Web Services, and ServiceNow, through our library of intelligent connectors. Schedule connectors to pull data in on a regular basis, such as month-end close, and receive alerts and notifications when connectors complete an upload.**	**F**

APPTIO

Data sheet

Datalink

Automate data integration from any source system

Data is the lifeblood of your business

The foundation of any continuously maintained financial model is the ability to automatically pull in data from a variety of sources. This can include sources such as general ledgers, CMDBs, and cloud provider bills, but could also include sources such as HR systems, asset lists, or even generic databases. Without the right automation, this process is labor intensive and error prone.

Apptio Datalink, enables organizations to easily automate the ingestion of data from virtually any source system, unlocking valuable resources previously spent on manual processes and ensuring the uploaded data are clean, accurate, and up to date.

Key Benefits

Improved Productivity: automated data ingestion using prebuilt or custom connectors frees the TBM analyst or data owner to focus on analysis and decision support

Timely Decision Support: scheduled uploads preserve data freshness, encourages timely analysis, and eliminates the risk of human error

Confidence in Data: standardizing query and file matching parameters through a one-time guided configuration ensures consistency of data month-to-month

Comfort with Data Protections: role-based access control strengthens data owner confidence that sensitive information is protected and increases their willingness to rely on TBM processes

Datalink

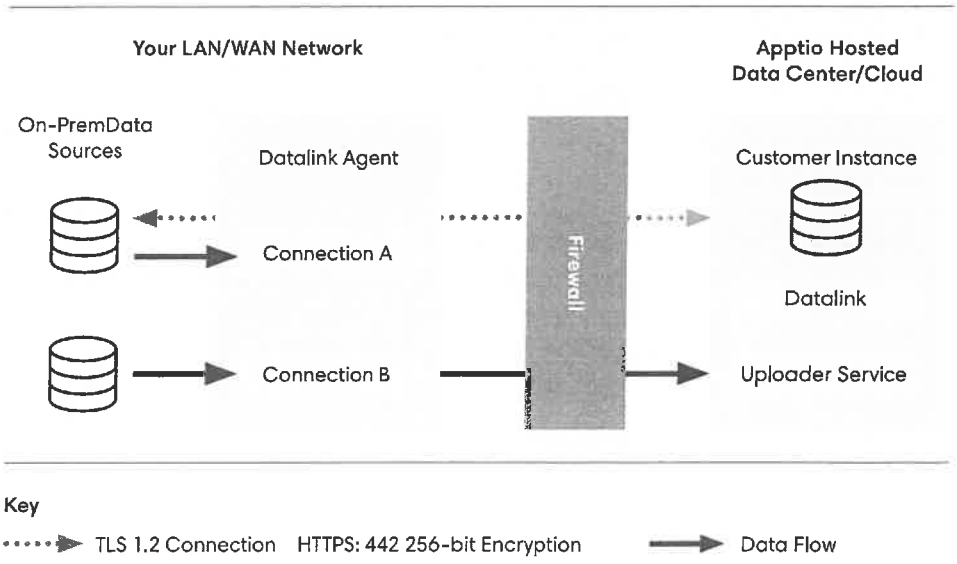
- Create custom connections from virtually any data source
- Leverage prebuilt connectors for many top 3rd party sources of data
- Schedule connectors to automatically retrieve and upload data on a monthly, weekly, or daily cadence
- Encourage timely analysis by establishing email alerts to notify users of the status and completion of data retrievals

Don't wait - get started with the data you have

When organizations begin to build out their cost model, most start with just a handful of data sources that they can easily access. On a monthly basis they export the source data (in a variety of formats) and manually upload to Apptio. The Apptio platform then transforms this data in preparation for cost flow calculations.

This combination of easy data ingestion via standard formats and automated post-upload enrichment enables customers to rapidly adopt the core tenants of TBM with minimal effort - and no need for the expensive data improvement projects required by other solutions.

Datalink Architecture



Continuously maintain your cost model

As their IT financial management discipline matures, Apptio customers benefit from a streamlined approach to maintaining their cost model by automating the ingestion of source system data on a regular basis.

Alternative solutions like other IT financial management and analytics tools require an ETL (Extract, Transform, Load) process before data is loaded. This means data owners must enrich their data - validate, cleanse, fill gaps, perform lookups to change date formats, etc. - prior to uploading into their cost model, which is often costly and time consuming.

Apptio takes a different approach. Datalink automates the Extract and Load steps by leveraging connectors for all compatible systems in your IT department - whether that source lies within or outside of your firewall. This avoids expensive custom ETL approaches to cleanse data and enables reporting against raw data where appropriate.

Once an upload is complete, the raw data is enriched and prepared in Data Studio to be imported into the cost model. Connectors can be scheduled to retrieve and upload data automatically ensuring that customers continuously maintain data integrity as they conduct their TBM practice.

Global Packaging Company

"The manual data upload process is laborious and cumbersome. Datalink automation cuts that time by over 80%."

- IT Controller, Global Packaging Company

Multinational Food & Beverage Company

"Automating the onboarding of source data frees up labor resources to be used elsewhere. We've unlocked 20 hours a week using Datalink."

– IT Finance Director

Multinational Insurance Brokerage Firm

"Doing this work manually was a hassle and prone to errors. Automating with Datalink eliminates those concerns."

– IT Financial Analyst

Get started

Apptio fuels digital business transformation. Technology leaders use Apptio's machine learning to analyze and plan their technology spend so they can invest in products that increase the speed of business and deliver innovation. By translating raw costs, utilization, and billing data into business-centric views, IT leaders shift spending from maintenance to growth. For more information, please visit **Apptio.com**

ApptioOne Billing Datasheet	**ApptioOne Billing, IT bills are calculated using your service catalogue, service rates, and business consumption data. Institute showback or chargeback knowing the numbers you use will be understood and agreed to by the business.**	**G**

Datasheet

APPTIO

ApptioOne Billing

Fair, transparent, easy-to-understand IT billing

Confusing, unpredictable, and errorprone bills of IT

An unwieldy, homegrown bill of IT drives a wedge of discord and distrust between IT and their business unit partners. Bespoke, manually-managed spreadsheets are impenetrable to the business unit who wants to drill down into what is driving costs. They key challenges we hear are:

- Arbitrary allocation methods create confusion.
- Unclear trade-offs between alternative solutions.
- Limited cost driver and demand lever visibility prevents data-driven decision-making.
- Unchecked business consumption of IT resources.
- The inability to reduce costs or improve services.
- No link between IT spend and business value.

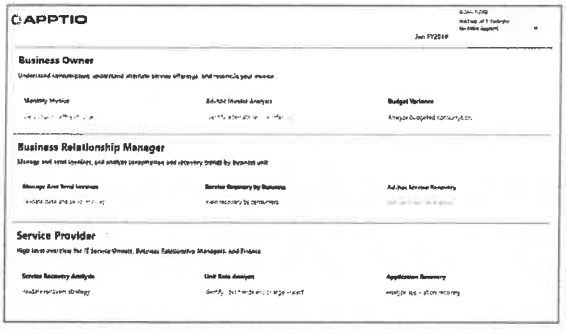
Overview

- **Improve IT's credibility** as a steward of organizational resources.
- **Fuel innovation** with a shift from run-to grow/transform-the-business.
- **Eliminate spreadsheets** that are error-prone and time-consuming to maintain.
- **Automate cost recovery** via chargeback using defensible data and unit costs.
- **Provide a predictable bill of IT** to business units that's transparent and defensible.

Fortunately, there's a better way

With ApptioOne Billing, IT bills are calculated using your service catalogue, service rates, and business consumption data. Institute showback or chargeback knowing the numbers you use will be understood and agreed to by the business.

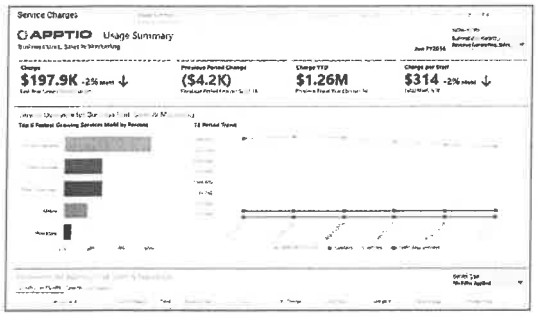
The outcome is better conversations with the business about the consumption that drives IT's rates as well as reduced time spent answering questions about those charges. Automated billing provides business unit leads with self-service access to statement details and drill-down data via the same single-pane-of-glass dashboard that IT and IT Finance use to develop rates. This empowers business partners to cut costs by changing behaviors without IT's intervention or a degradation of service quality.



ApptioOne Billing

Recover costs, understand service value, align to business

- **Track consumption by business unit**
  Understand the value of services across the organization and within business units.
- **Recover costs through chargeback**
  Deliver a user-friendly bill with accurate IT costs and defensible allocations that influences demand and drives behavior change.



Track consumption

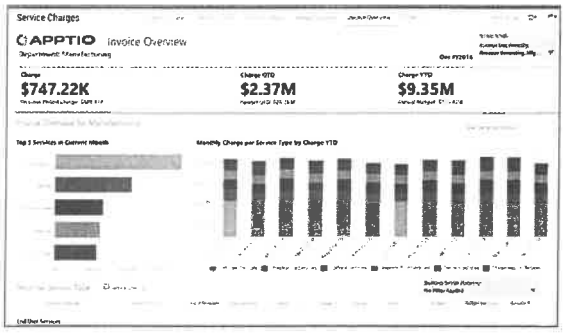
End indefensible and uninformed allocation of IT costs

- Consistently show IT spend by business unit, department, and user.
- Allocate IT costs to the business based on units of applications and services consumed.
- Provide the business and IT with a single unified view of shared service expense.
- Map shared service cost to functional areas through a standard model.
- Segment capabilities into activity type (transactional, high value, etc.)

Recover costs

Avoid unfair pricing strategies that fail to drive the right consumption behavior

- Provide the business with predictable billing and fair allocations.
- Price services to influence consumption.
- Perform recovery analysis to ensure correct charges.
- Ensure true-up adjustments deliver fair and accurate billing.
- Provide transfer pricing and taxation charges.
- Automate invoicing and settlement of shared services.
- Visualize IT costs per country and product line.
- Reduce friction with the business based on data and sources.



Customer results

Penn — University of Pennsylvania

Implemented a full monthly chargeback model across the university that includes 65 services.

Cargill™

Move to a single, consistent, holistic view of recovery that helped IT improve credibility with the business.

GREAT-WEST LIFECO INC.

Saved $7M in one business unit through service optimization.

Get Started

Apptio fuels digital business transformation. Technology leaders use Apptio's machine learning to analyze and plan their technology spend so they can invest in products that increase the speed of business and deliver innovation. By translating raw costs, utilization, and billing data into business-centric views, IT leaders shift spending from maintenance to growth.

For more information, please visit Apptio.com/get-started

Apptio Cost Transparency Foundation	**Cost Transparency Foundation: Provide financial transparency of IT costs across Accounts, Cost Pools, and IT Towers, Vendors, and Projects. Automate and operationalize monthly cost analysis and reporting of spend against budget.**	**H**

APPTIO

Cost Transparency

Manage and Communicate the Business Value of IT

Overview

The single biggest risk for CIOs and IT organizations today is not being able to make good spending decisions at the pace of digital business. Cloud migration, agile development, and digital transformation have introduced new complexity to an already complex landscape - and more pressure for IT to balance run costs with new technology investments that drive business value and topline growth.

The only way to shift focus and resources from keep-the-lights-on activity to business priorities is by having accurate information that factors both the financial and operational elements of the technology business. This transparency changes the conversation with the business to value vs cost and enables decisions that account for the fact-based reality of resource constraints and tradeoffs.

Key Benefits

- Single view of IT costs across the entire IT portfolio
- Cloud costs shown in the context of total IT spend
- Granular self-service analytics for IT decision makers
- Project and app cost by business priority and initiative
- Start with basic allocations and refine them over time

The Power of Apptio Cost Transparency

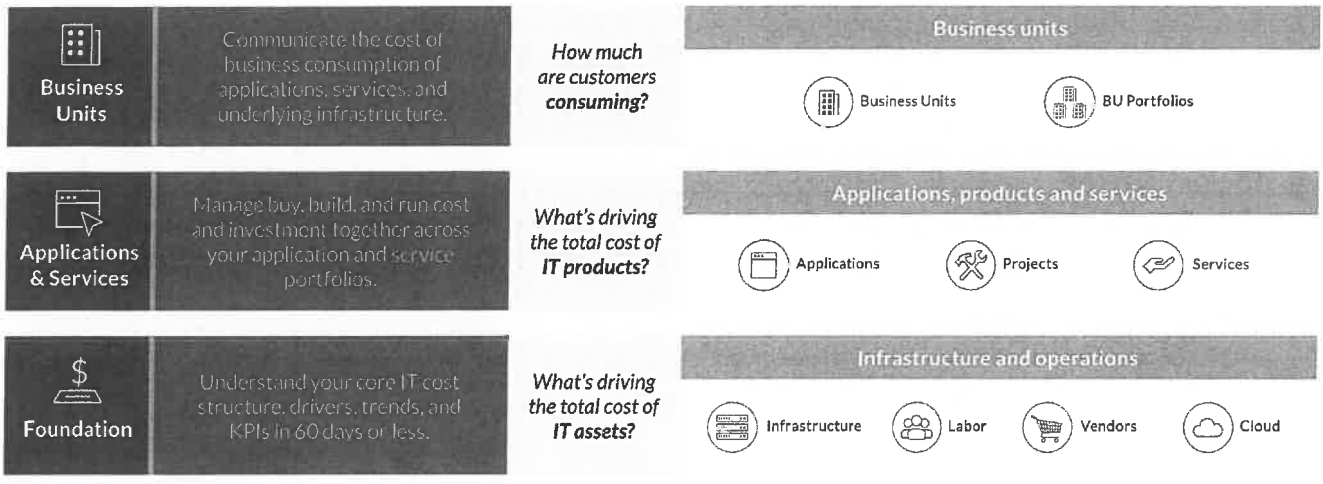
Apptio Cost Transparency brings together financial and operational data and applies an industry standard framework that automates the manual work required to understand the total cost of IT resources. With Apptio Cost Transparency, IT leaders are able to clearly communicate and manage IT value in a context that business partners can understand. Without Apptio, companies risk making decisions that create more waste and hamper execution, putting pressure on business goals and exposing the business to faster-moving competitors.

Informed Decisions
based on a single system of record to manage IT cost and output

Common Language
by communicating in terms the business understands

Demonstrated Value
to quantify what IT is delivering to the business

Where Apptio Provides Transparency



Real Outcomes with Apptio Cost Transparency

RUN

- Proactively manage IT spend to budget
- Make informed staffing decisions
- Understand infrastructure cost & trends
- Prioritize public cloud investment decisions

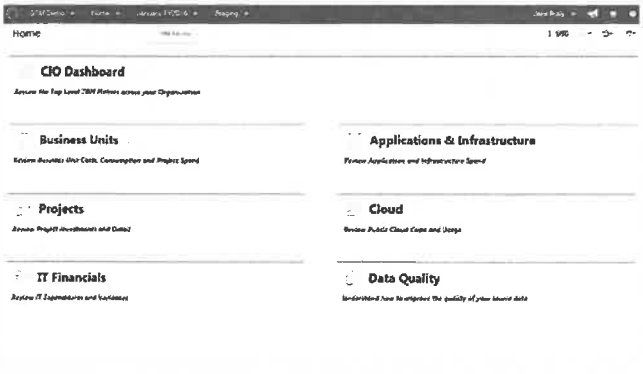
GROW

- Align project resources to business priorities
- Manage application costs and resourcing
- Drive shared accountability of IT costs with the BU

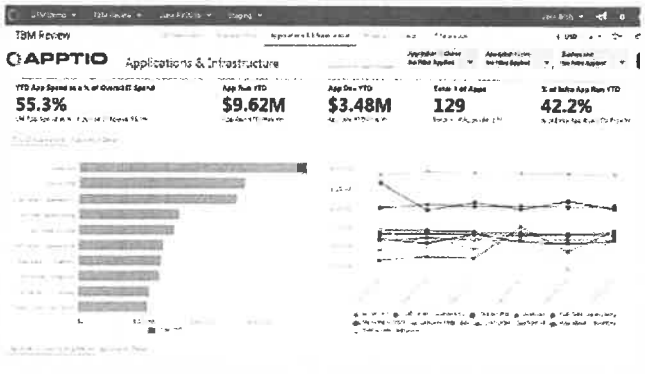
Questions Apptio Cost Transparency Can Answer

App & Service Owners	Infrastructure & Operations	CIO & IT Leadership	Business Relationship Managers	IT Finance
				
Manage Application Portfolio for Value	**Show Efficiency and Justify Speed**	**Make Fact-Based Decisions to Shift Run to Grow**	**Align Resources to Business Priorities**	**Establish Governance & Accountability**
• Total cost of top 10 apps? • Build versus run costs? • Spending to enhance apps?	• Infra cost by category? • What are my Cloud costs? • Infra cost related to apps?	• IT spend on run vs change? • Project spend on initiatives? • Where can BU affect cost?	• Spend on each BU? • Run vs Grow with each BU? • Spend by top BU priorities?	• What is IT Budget variance? • What's fixed vs variable? • Where can BU impact cost?

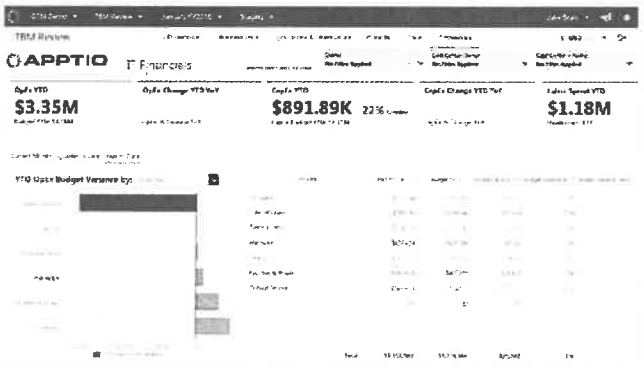
Analytics to Manage the IT Business



Apptio Cost Transparency Foundation gives you standard monthly TBM reviews to manage all areas of the IT business.



Apptio Cost Transparency for Apps and Services provides total cost of your most important applications and services.



Apptio Cost Transparency Foundation gives you total control over your IT operating budget.

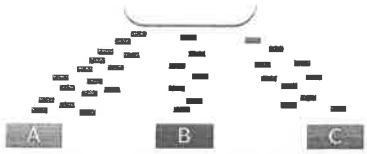
Apptio Cost Transparency for Business Units keeps cost and resources aligned to business priorities.

Transparency into Cloud Spend

Apptio Cost Transparency lets you manage your public cloud spending from a single plane of glass, accounting for all costs that go into managing and supporting public cloud assets and puts them in the context of your entire IT portfolio.

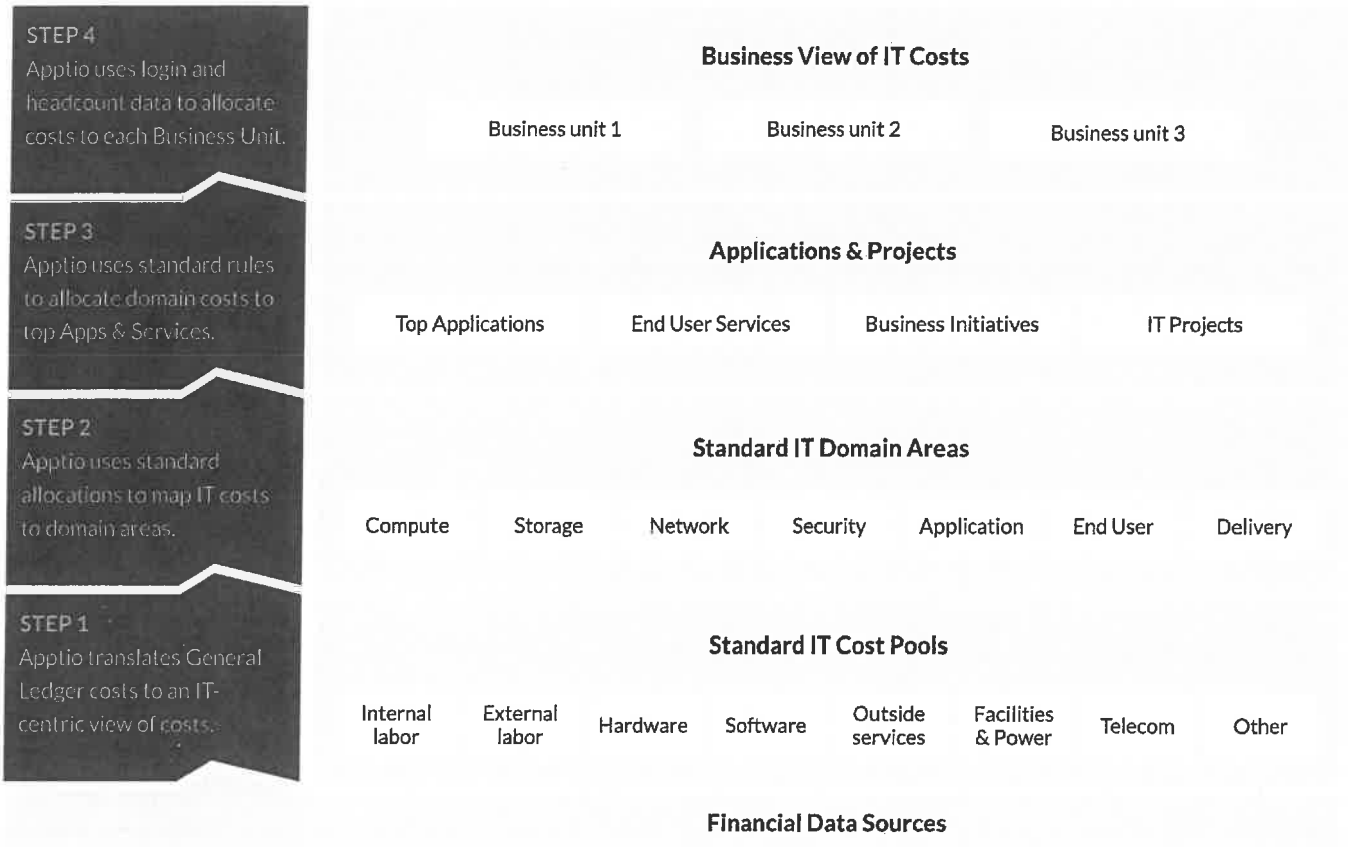
Aggregate cloud billing detail into a holistic view of all IT costs

Calculate fully burdened cloud TCO, including non-cloud costs



Identify how consumption drives cloud costs by App, Service or BU

Standard Model for IT Business Management



How it Works

Apptio Cost Transparency is configured and managed using Apptio TBM Studio which automates the collection and assembly of data across financial and operational sources using an industry standard cost model to transform raw data into actionable analytics. Apptio TBM Studio includes three required capabilities for TBM: 1) Data collection and organization, 2) Model creation and maintenance, and 3) Report creation, configuration, analytics and access.

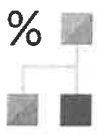
1. Extract

Data Collection
Identifies which data sets are required from which sources and automates collection

2. Transform

Data Translation
Translates disparate finance and IT data into standard structures and formats

3. Calculate



Cost & KPI Model
Uses IT data to apportion GL cost and calculates KPIs into standard IT categories

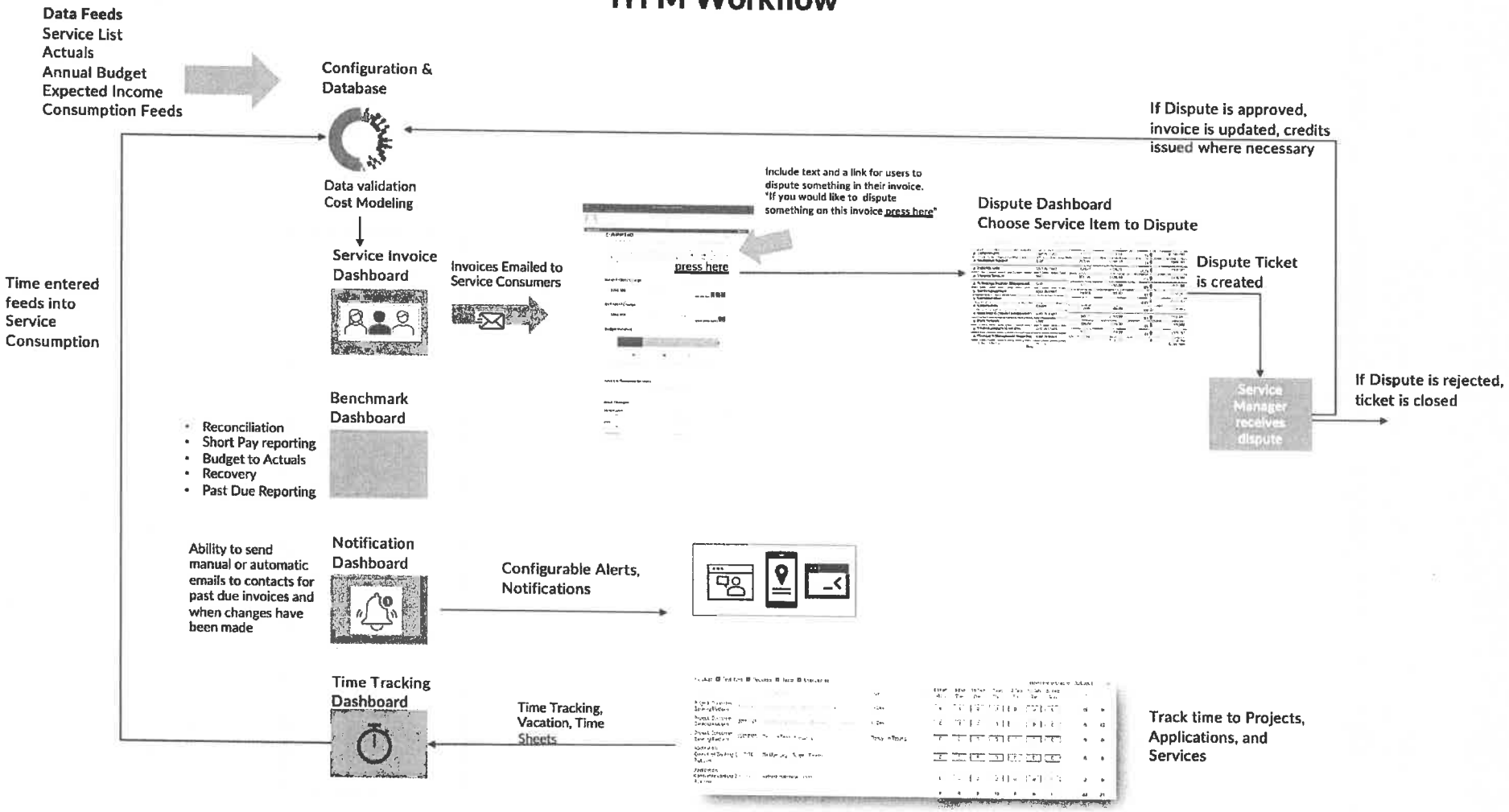
4. Report

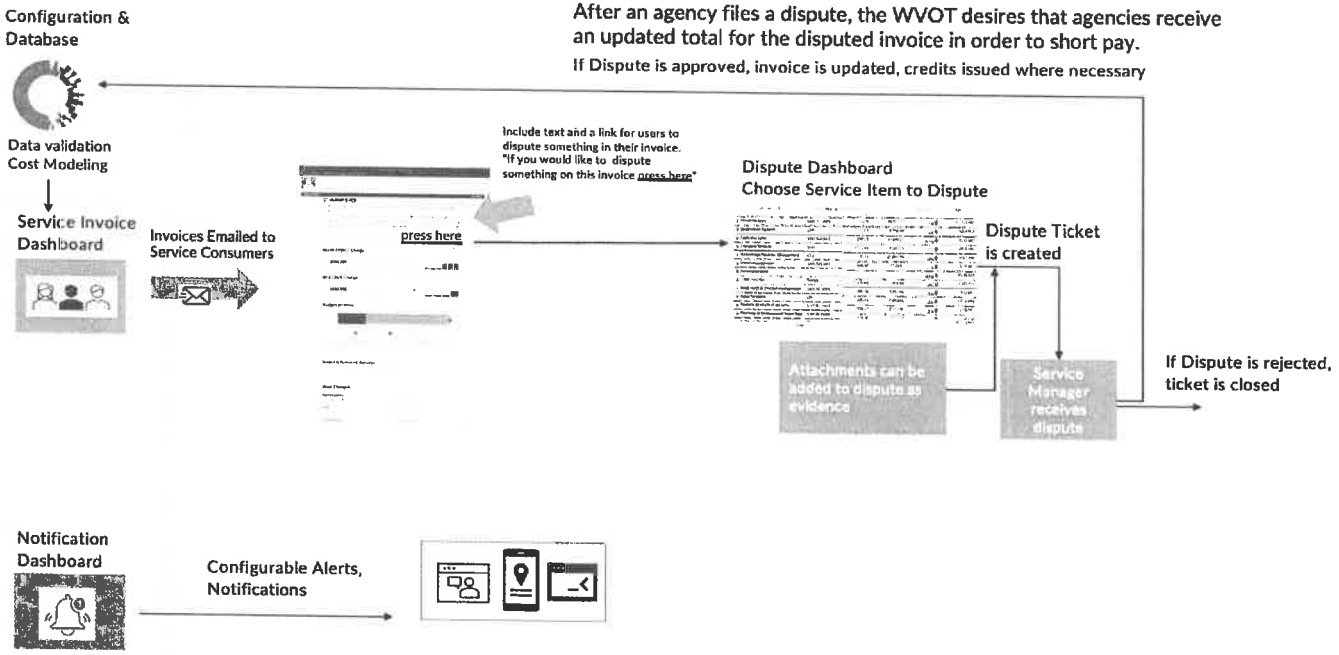
Interactive Reports
For IT executives, IT tower and budget owners, IT Finance

Apptio is the leading provider of cloud-based Technology Business Management (TBM) software that helps CIOs manage the business of IT. For more information, visit the Apptio website or the Apptio blog at www.apptio.com.

Technical Architecture Solution	**Draft Solutions architecture for State of West Virginia**	**I**

ITFM Workflow





Dispute Workflow

-Dispute is Issued; this creates a dispute ticket
-Service Manager Receives Notification of dispute
-It can be Approved, Modified, or Rejected

---Dispute is approved
-Service Manager accepts the change, which updates and closes the dispute ticket.
-Adjusting entry (credit) is made in the next period.

---Dispute is modified
-Service Manager reviews and updates dispute.
-A notification is triggered informing the disputer that the ticket has been updated.
-The "Dispute Dashboard" reflects this update and the amount to be credited in the next period.
-Ticket is automatically closed.
-Adjusting entry (credit) is made on the invoice in the next period.

---Dispute is rejected
-Service Manager reviews and rejects dispute.
-A notification is triggered informing the disputer that the ticket has been updated.
-The "Dispute Dashboard" reflects this update.
-Ticket is automatically closed.

Questions to answer during delivery:
Are rejections final?
Can dispute process loop multiple times?
If it can loop, what prevents indefinite loop?

Configuration &
Database

After an agency files a dispute, the WVOT desires that agencies receive an updated total for the disputed invoice in order to short pay.

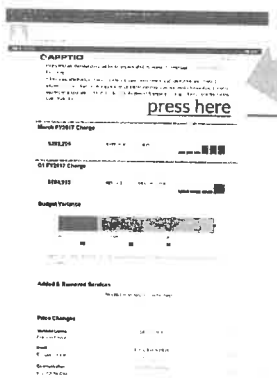
If Dispute is approved, invoice is updated, credits issued where necessary

Data validation
Cost Modeling

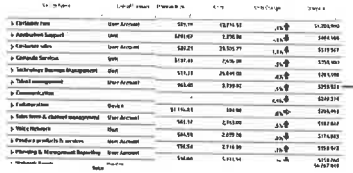
Service Invoice
Dashboard

Invoices Emailed to
Service Consumers

Include text and a link for users to dispute something in their invoice. "If you would like to dispute something on this invoice press here"



Dispute Dashboard
Choose Service Item to Dispute



Dispute Ticket
is created

Attachments can be added to dispute as evidence

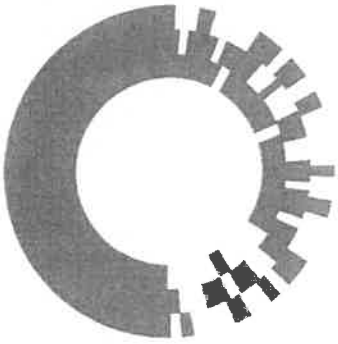
Service Manager receives dispute

If Dispute is rejected, ticket is closed

Notification
Dashboard

Configurable Alerts,
Notifications

Sample Solutions Architecture	**Sample Solutions document from another State**	**J**



APPTIO®

SAMPLE STATE ARCHITECTURE

Solutions Architecture Document

Existing System to Apptio Migration

Sample Document (Partial)

Revision Number: 0.1

Last Updated on:

Table of Contents

Account Contacts

Solutions Architect	*Engagement Manager*	*Technical Lead*
Name:	Name:	Name:
Email:	Email:	Email:
Phone:	Phone:	Phone:

Use Cases

Apptio will provide a breakdown of CUSTOMER use cases. Each use case will include ...

Use Cases List

Use Case: 1	**Supplier Invoicing**
Use Case: 1.1	Supplier invoice generation
Use Case: 1.2	Ability to drill into the supplier invoice
Use Case: 1.3	Month over month changes to vendor usage
Use Case: 1.4	Prior period consumption adjustment support
Use Case: 1.5	Supplier reconciliation and AP report generation
Use Case: 1.6	Data validation report
Use Case: 2	**Agency Billing**
Use Case: 2.1	Generate the Agency bill
Use Case: 2.2	Ability to drill into the agency bill
Use Case: 2.3	Month over month changes to agency usage
Use Case: 2.4	Prior period consumption adjustment support
Use Case: 2.5	Ability to generate fixedwidth report for Peoplesoft integration
Use Case: 2.6	AR payment generation for VITA accounting integration
Use Case: 2.7	Data validation report
Use Case: 3	**Budget Forecast Rate Development**
Use Case: 3.1	Supplier contracts rates with ARC/RRC, deadband calculation support
Use Case: 3.2	Ability to consume consumption volume forecast
Use Case: 3.3	Support multi level allocation model for allocation pool
Use Case: 3.4	Rate generation for department of planning and budgeting consumption for next FY
Use Case: 3.5	Budget DBP package support
Use Case: 3.6	Ability to generate reports Expense/Revenue, Rate card ELI level, Direct/Indirect, VOCA Allocation, ELI to Pool, VITA IT Budget, Pool to Tower allocation, Validation views
Use Case: 4	**Actuals Budget Forecast Variance**
Use Case: 4.1	Ability to integrate with billing to get actuals
Use Case: 4.2	Ability to integrate with demand forecasting to get the forecast
Use Case: 4.3	Generate actuals to forecast variance by agency ($ and volume)
Use Case: 4.4	Generate actuals to forecast variance by resource unit ($ and volume)
Use Case: 4.5	Generate actuals, budget and forecast variance by agency
Use Case: 5	**Agency Consumption Forecasting**
Use Case: 5.1	Allow agencies to enter consumption demand by resource unit
Use Case: 5.2	Support agencies from restricting seeing each other consumption entry
Use Case: 5.3	Support forecasting approval workflow
Use Case: 5.4	Provide ability to view forecast spend by agency and resource unit
Use Case: 5.5	Ability to integrate actuals by agency from BoIT
Use Case: 6	**Vendor Consumption Forecasting**

Use Case: 6.1	Allow vendor to enter consumption demand by ELI
Use Case: 6.2	Support vendor from restricting seeing each other consumption data
Use Case: 6.3	Support forecasting approval workflow
Use Case: 6.4	Provide ability to view forecast spend by vendor and ELI
Use Case: 6.5	Ability to integrate actuals by vendor from BoIT

Specific Use Cases

Use Case: 1 Identify the accrual amounts by Vendor

Owner:	Who will own the process?	**Participants:**	Who will participate in the process (reviewing reports, collecting value, coordinating action, answering questions, oversight, etc)?
Description:	Identify the transaction with process status as indexed (scanned invoices but not yet hit the AP ledger) and approved. This report will be used to show the accrual amounts by vendors. Also show the document type from the FBL1N data.		
Data Requirement(s):			
Cadence:	How often will this capability be run (monthly, quarterly, etc)?		
Assumption:			
Pre Apptio Process:	What are you doing now? Is there a process in place that Apptio will be supplementing? Is this a new capability that has not existed at your company before?		
Post Apptio Process & Success Measure:	What will the new process be? How will you measure success? Try to be SMART (specific, measurable, attainable, relevant, time based)!		
Design Diagram:	Reference to the conceptual model or process integration or data model		
Rollout Timing:	When will you start using this capability?		
Report/Value Location:	What reports will you be using to answer your questions, run your processes and/or realize SMART goals?		
Outcome Impact:	Who does the use case outcome impact?People, Process, Technology?		
Gaps:	Identify the gaps/trade offs of the proposed delivery. What		

are the identified gaps (from Apptio)?

High Level Conceptual Model(s)

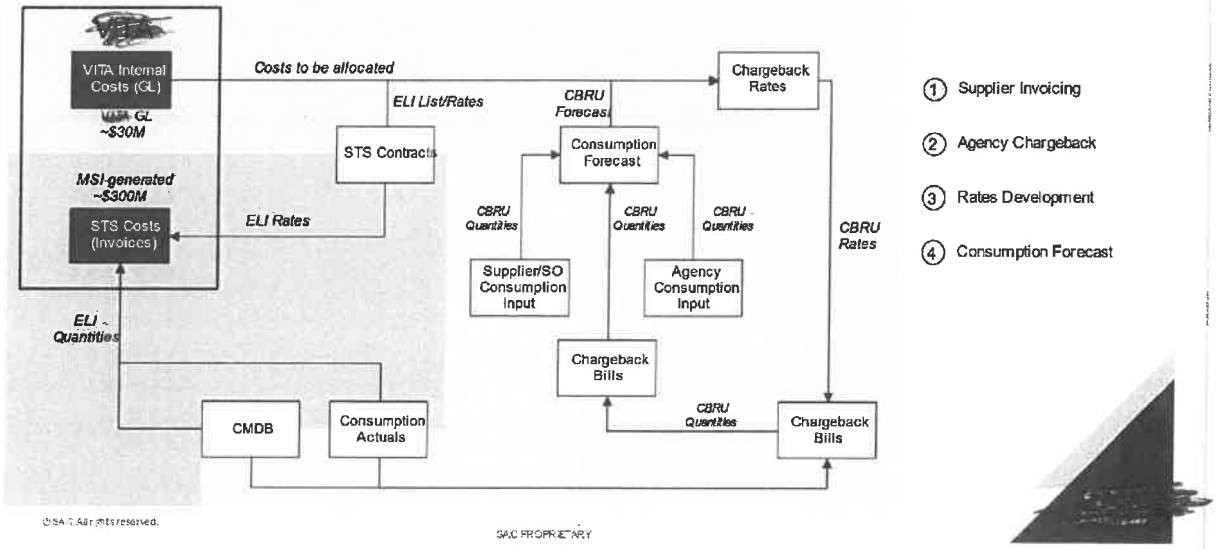
Apptio will provide several conceptual models that will provide CUSTOMER a high-level overview of what Apptio will be delivering. Each conceptual model will consist of ...

Process Integration Model

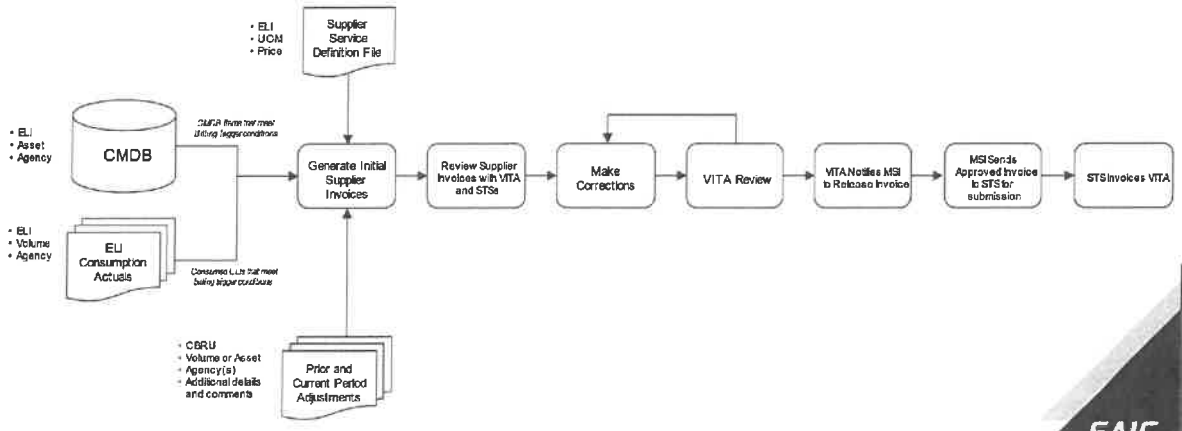
Model	Use Case ID
Process Integration Model	**All use cases**

Existing System [redacted] views

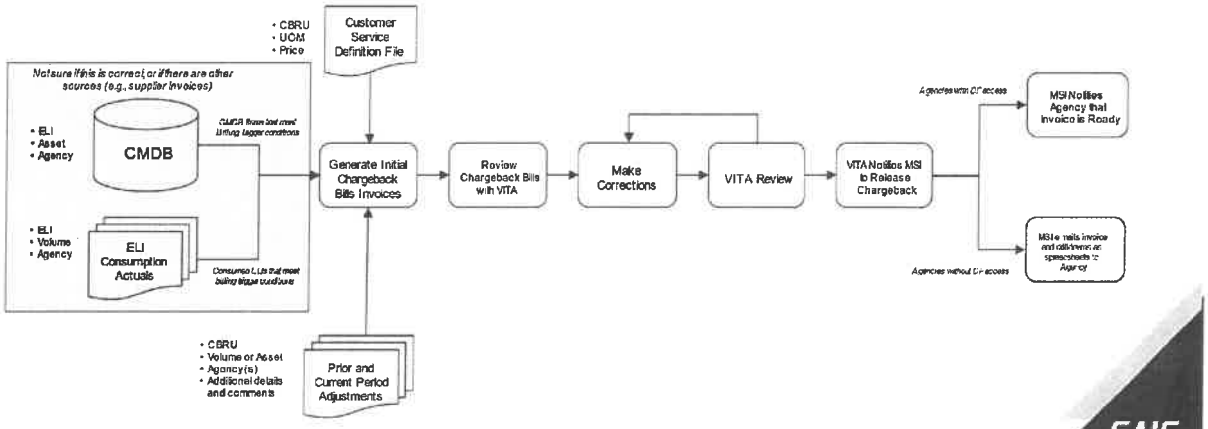
ITFM Data View



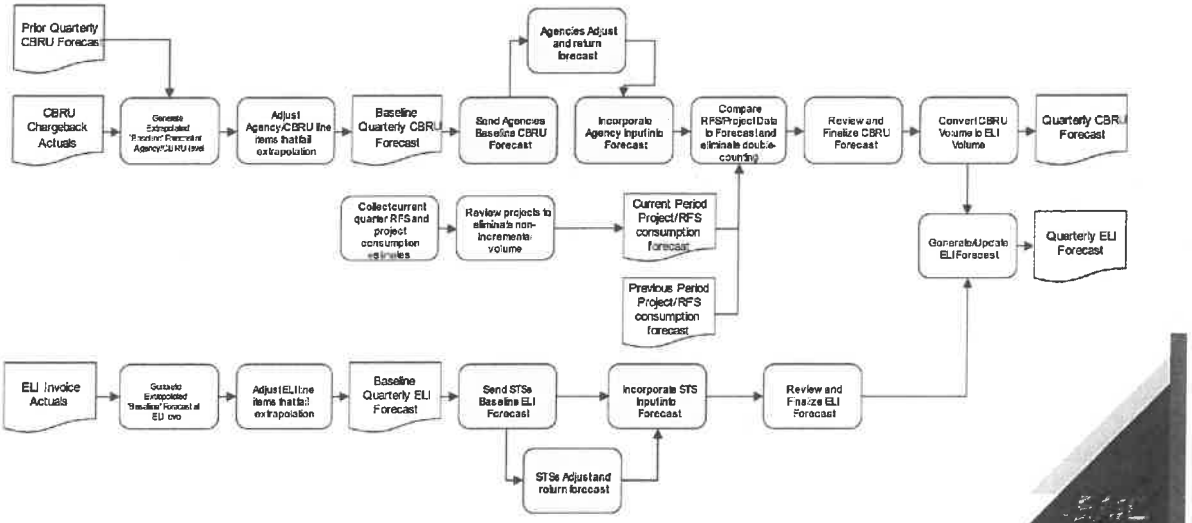
Supplier Invoicing (current)



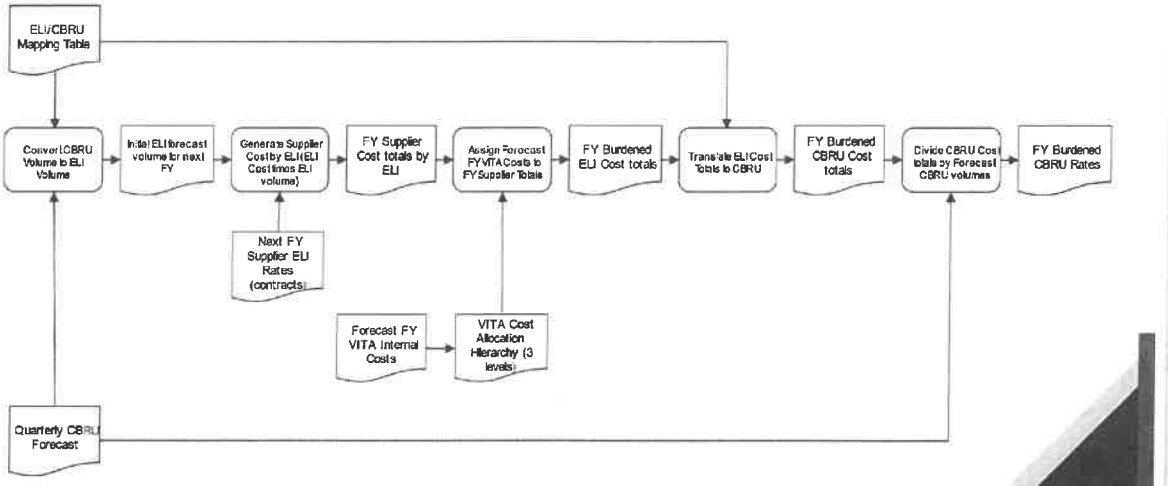
Chargeback Billing (current)

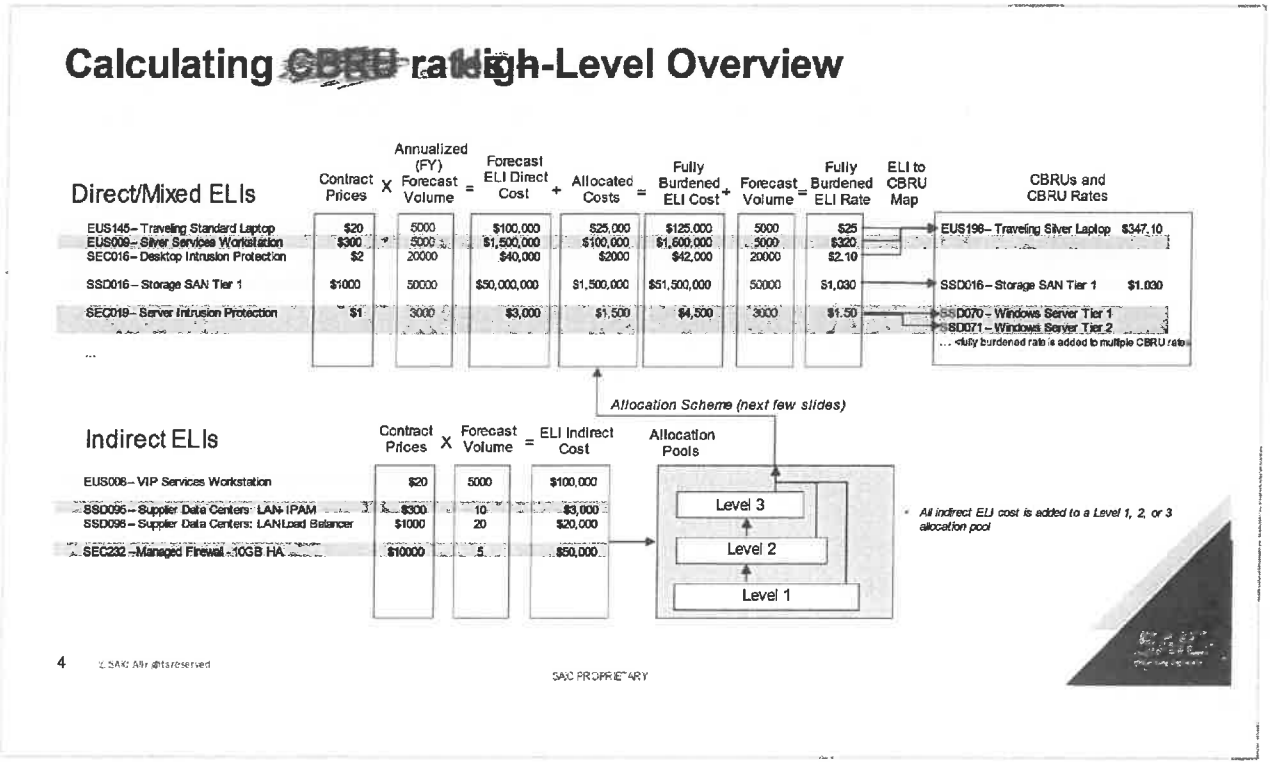


Quarterly Forecast (current)



Rates Development (current)





System Integration

This section is intended to provide CUSTOMER visibility around how information and data is being shared between the different modules that are being implemented.

Conceptual Model for BoIT and CT and Planability Demand Integration

6 Best Practices for Allocating IT Costs for the Public Sector	**Cost allocation is an integral part of Technology Business Management (TBM), a category of software that brings the best practices of financial and performance management to the complex environment of IT.**	**K**

APPTIO

White paper

6 Best Practices for Allocating IT Costs for the Public Sector

Overview

Cost allocation is an integral part of Technology Business Management (TBM), a category of software that brings the best practices of financial and performance management to the complex environment of IT.

With TBM, IT leaders gain visibility into the fully-loaded cost and quality of IT services, communicate the value of IT to mission components through a bill of IT, reduce cost without reducing quality, and align resources with mission objectives through collaborative budgeting and planning processes.

> [Federal government] reduced IT costs, improved operational efficiency, improved decision-making, increased invest[ment] in growth and innovation, and improved IT business and communication, and accountability within [the] agency.
>
> – CIO, Federal Government

Expressing the fully-loaded cost of IT services, or expressing the cost burden placed on IT by various mission owners, inevitably leads to some decision-making around exactly how to assign the costs from one category or group to another category or group. Options abound, but which one to pick depends on several factors in play within the agency. This document focuses on the prevalent cost allocation methodologies in practice and it offers guidance in terms of which one is the best fit in a given context.

IT and agency leadership face questions of credibility when there is no transparency behind IT cost allocations. IT cost recovery, without context, fails to show agency stakeholders how their consumption could control cost and propagates the idea that IT is merely an opaque line in the budget.

CPIC and budget teams, and the OCFO leaders, want to show how they're fueling innovation and consistent delivery of mission services by gaining visibility into what has been spent, what will be spent, and aligning project resources to mission priorities. IT leaders deliver these outcomes by employing and communicating appropriate cost allocation strategies.

Modeling IT costs

IT leaders depend on a certain universe of data and reporting capabilities to effectively manage IT like a business. Today, most cost, quality, and operational data resides in separate asset, labor, performance, and finance systems. The challenge for IT leadership is using this data to manage its own operations, as well as deriving and reporting on the cost of providing its core services and capabilities to the agency.

Aggregating and organizing the data in order to enable deep analysis and reporting on IT financials requires an allocation model that captures cost information and then "flows" it from one logical group to another. A basic example would be capturing the cost of an IT resource or asset (a server, a unit of storage, a unit of time spent by a support admin), modeling the flow of that cost into various IT services that contain or depend on that resource and from there modeling the flow of costs up to the mission consumers of those services.

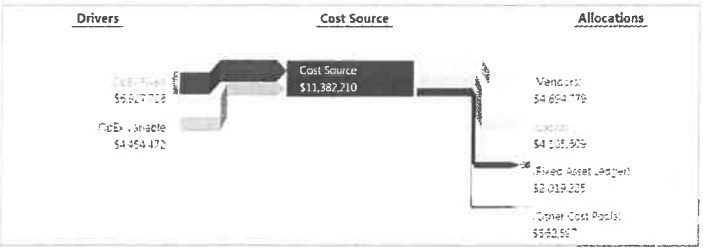


Figure 1: An allocation model captures cost information and then 'flows' that data from one logical group to another.

In the example above, the application servers, storage servers, administrative labor, IT services, and mission units each would reasonably constitute a "cost pool" or "cost object" (hereafter cost pool). Cost pools are simple collections of something that the business thinks of as a category of IT spend or consumption. The key concept is that they are groups of items that are meaningful to the agency, no matter whether an accounting system or other transactional system organizes them that way.

A model organized like the one above will "flow" costs from a low-level IT resource layer (data centers, software, support, etc.), up into a fully-burdened (i.e., inclusive of direct and indirect costs) Applications & Services layer, and from there up into a Mission Component layer that consumes the IT services. The goal is to provide a picture of the overall cost of IT, in which every cost pool has a fair and reasonable burden of the IT costs incurred by the organization as a whole.

That "flow" of costs from one group into another is known either as cost attribution or cost allocation. Cost attribution refers only to directly-assigned expenses. When an entire category of spend, that is, one entire cost pool, is unambiguously assignable to one entity that incurred that spend, then a model should attribute that spend to that entity. For example, if IT offers a foundational service called "Virtual Server Mid Class", and this is the only virtual server class in the catalog, then all hypervisor and other virtualization software might be attributed to that one single service. There is no need to carve up that incurred cost and share it among many entities

"Apptio has improved cost transparency specifically for end-user services and applications providing a substantiated basis for monthly chargebacks to the business. It has been the driving force for conversations between IT and our business partners about IT solution alternatives and the business is now more cognizant that IT is not 'free.' We've also seen increased alignment between IT and Finance organizations - IT CFO, Business CFOs, IT PMO, IT Service Management, IT Architecture, IT Asset Management - with regard to tracking and managing spend by IT service."

– CFO, State & Local Government

Contrast this with cost allocation, in which costs in one logical group (cost pool) need to get spread, somehow, across many destination cost pools and/or units in a single cost pool. This is a very common situation, and any agency that offers IT services will most definitely need to address it. For example, in Fig. 2, servers, storage and tickets costs flow up to Applications.

Naturally, many applications share space on servers running in data centers, and they share support and maintenance as well.

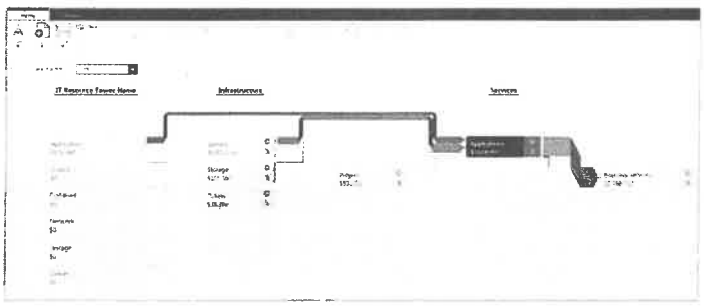


Figure 2: Fully burdened costs of application services include direct (application licensing) and indirect (servers, storage, and tickets) costs.

Somehow those data center and support costs must get spread across the applications, in order to approach a fair and accurate, fully-burdened total cost of ownership (TCO) for each application.

Cost allocation is where IT Finance needs to make a judgment call, and correspondingly this is where IT has the opportunity to partner effectively with mission consumers of IT. In an ideal deployment of a cost modeling and showback (i.e., show a bill of services consumed) or chargeback (i.e., collect on the bill of services consumed) exercise, mission components understand how the shared costs are allocated, and a strong consensus exists around the various strategies employed for doing so. Furthermore, they have the transparency they need to understand all of their incurred costs, direct and shared, at a level that is detailed enough to support some decisions around how to increase their efficiency and drive down their spend on IT.

Models also exist for other dimensions of finance beyond cost, such as revenue, budget, forecast, and operational metrics such as service usage, resource utilization, quality, and performance. This document focuses on cost, although the methodologies discussed often apply in these other dimensions as well.

Allocation strategies are the foundation

Underpinning these models are allocation strategies that control allocating pools of shared cost and utilization from one logical group to another. The long term viability of a model depends on the availability, quality, transparency, and configurability of these strategies. Many options might exist when deciding such questions as, "Where should I pull cost data? And how should I allocate that cost up to my services and then to business units?" IT governance issues arise as well, raising such questions as: "How can I collaborate on these decisions and preserve them as rules? How do I manage changing them over time?"

Tackling cost allocation with existing tools such as spreadsheets, business intelligence platforms, and ERP reporting is overwhelming. In attempting to allocate the expense of server assets, for example, an agency might have 3,000 servers that are used by 300 different services. The services could include everything from setting up phone service to creating Internet logins. How should the costs be allocated: split server costs evenly between all of the different services, or allocate the costs by how many people in each component unit actually use the service? After all, one might reasonably assume, in the absence of data, that a larger work group probably drives more server load. Or, perhaps the cost model should import utilization metrics and the server cost should be allocated based on how much CPU and memory load each service actually places on the servers.

While an allocation model may call for assigning costs from a source pool such as Helpdesk to a destination pool such as Applications, there is still the question of how exactly to distribute the costs across the units of the destination pool. For example, what percentage of the overall Helpdesk costs should be allocated to each application? The particular method chosen to allocate costs from pool A across all the units in pool B is known as an allocation strategy. The right strategy for a given situation depends on factors such as data availability, agency age, size, structure, culture, and goals.

Common allocation strategies in use today fall into six major categories:

1. Even spread
2. Manually assigned percentage
3. Manually weighted
4. Direct spend weighting of shared expenses
5. Consumption-based
6. Multi-dimensional

1 Even spread

Dividing IT costs evenly among components is the easiest way to do cost allocation. Using a basic table, IT cost data is simply split into equal parts. For example, an agency might spend $1M on server maintenance each year. If the agency has 1,000 servers, that means they spend $1,000 annually per server. Likewise, if there are 10 components, then each component would pick up 1/10th of the server cost, or $100,000 per component for server cost.

To take from the corporate world, the manager of desktops at a well-known Seattle-based retailer needed to decide whether to invest in new workstations, or whether to defer this cost for another year. The CIO wanted the manager to show him what percentage of IT overall budget was going to these workstations. In this case, the desktops manager did not care as much about how, for example, network costs relate to server costs. While the additional information could be nice, there was no decent return on time spent on such details. An even spread made good sense for those network/server cost relations, and time was better spent drilling down on data relating to desktop computer maintenance and replacement.

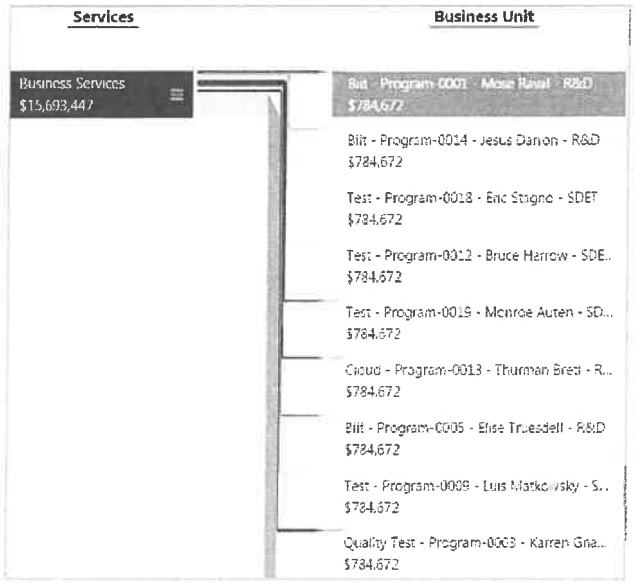


Figure 3: Even spread allocations are suitable for internal analysis within IT but are not suitable for producing a bill of IT for agency stakeholders as the allocations do not accurately reflect individual mission owner costs.

Does this allocation strategy fit your agency?

The even spread allocation method makes good sense for any agency that is in the early days of scrutinizing IT spend and wants to quickly establish a baseline starting point. The method produces a fast and accurate grand total (but not necessarily fair individual burdening). Agencies can take that number as a starting point and use it to begin improving IT cost management. For these agencies, it's better to have a number to work from than to have no data at all. Although less fair and precise, the even cost spread method is good for agencies wanting to quickly analyze and identify areas to optimize costs.

Second, some agencies already know they want deep cost analysis on a certain IT product or service, as in the example above, but even spread allocation is good enough in other areas, and provides an accurate overall report of service TCO across IT. This method is suitable for internal analysis within IT, but it is not suitable for producing a bill of IT for agency stakeholders as the allocations do not accurately reflect individual stakeholder costs.

2 Manually assigned percentage

The manually assigned percentage allocations provide more accurate cost assignment than using even spread methods. With this allocation, someone in the agency who can provide an educated guess of how costs should flow will assign percentages to various categories. For instance, if the server maintenance team spent half of their time working on five troublesome servers, each of those servers could get 10 percent of the maintenance costs, or 50 percent of the total maintenance cost budget. Then, the other 50 percent of maintenance costs could be spread evenly throughout the remaining servers. The manually assigned percentage method is typically more fair and accurate than simply dividing expenses evenly, because there are generally some services that consume a greater share of IT resources than others.

Figure 4: The speed and ease of a manually assigned percentage provides IT Finance with some breathing room to collect more accurate percentage weightings in areas where they need better granularity.

3 Manually weighted

With a manually weighted allocation system, percentages are no longer important. Instead of making sure each expense column adds up to 100 percent, a model owner would plug in whole numbers, representing consumption or activity of some kind. The manual weightings have an advantage over percentages in that they are rooted in solid numbers that are easily understood.

For example, a server infrastructure team informs IT Finance that 10 servers run the CRM application, 15 servers run the ERP application, and 25 servers run the data warehousing application. In this case, server spend would flow to the three applications with 1X to CRM, 1.5X to ERP, and 2.5X to data warehousing. So a server spend of $10M would flow with $2M to CRM, $3M to ERP, and $5M to data warehousing. Each of those servers is assigned its weighted share of the total.

Figure 5: A manually weighted allocation begins a shift in responsibility and accountability from IT to the consumers, giving them an incentive to collaborate with IT on unit-by-unit consumption, unit rates, and overall demand.

Does this allocation strategy fit your agency?

An agency would use this method when it is easier or more logical to directly assign the actual usage or consumption of resources than it is to calculate (estimate) a percentage. If an agency can produce the number of servers, telephones, devices, employees, transactions, logins, and so on, it can use the manually weighted strategy. Since many of these numbers are easy to acquire, most agencies can quickly take advantage of this method of IT allocation.

This strategy is the first one that hands control to IT consumers, tying their behavior to future weighting. The strategy begins a shift in responsibility and accountability from IT to the consumers, giving them an incentive to collaborate with IT on unit-by-unit consumption, unit rates, and overall demand.

4 Direct spend weighting of shared expenses

The direct spend weighting of shared expenses allocation strategy typically weighs shared expenses based on directly-attributable expenses as a portion of the overall spend.

Example 1: Assume Department X spent $150M on directly-attributable IT Services (costs that can be directly or reliably traced back to Department X), Department Y spent $200M, and Department Z spent $350M. There was $100M of shared expenses. The direct spend of each department serves as a weighting of the $100M of shared services relative to the direct spend of the other departments. Those ratios of direct spend by department are then used to carve up the pool of IT spend for which there is no single clearly responsible consumer.

For Department X, the allocation of shared expenses is calculated as $150M / ($150M + $200M + $350M), yielding a ratio of 21%. When applied to the total shared expense of $100M, Department X is responsible for $21.4M of shared expense, plus their $150M of directly-attributable expenses, for a total allocation of $171.4M. In other words, with cost-based allocation, certain dollars dictate the destination of an entire agency.

Example 2: An entire agency shares a help desk and an email database. The easiest ways to split those shared expenses may not be the most accurate. We could divide the cost of that help desk and database evenly between departments, but some departments may be larger than others. Or, we could weigh the cost by how many employees each department has, but employee count doesn't always determine IT use. The legal department might use more than its fair share of data storage because so many of their documents are stored online and preserved for many years. Neither of these methods provides the most accurate way to split shared expenses. When no good options exist in readily-available data, cost-based allocation starts to make sense.

So to determine how much each department should pay for the help desk and email database, the cost-based method leverages other IT spending. Let's say an agency has $10M of shared IT expenses and $100M of IT spending that can be directly attributed to individual stakeholders. The legal department spends $50M on direct IT expenses, or half of the agency's direct IT spending. Therefore, we can then assign half of the $10M of shared IT expenses, or $5M, to the legal department. Grand total for Legal: $50M + $5M = $55M.

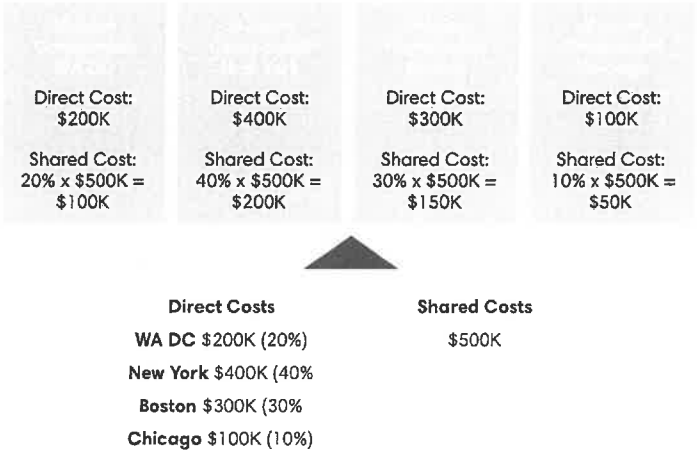


Figure 6: Direct spend weighting strategy has a strong advantage in that it requires no new data in order to work. The weighting of attributed dollars is the data.

Does this allocation strategy fit your agency?

This strategy has a strong advantage in that it requires no new data in order to work. The weighting of attributed dollars is the data. The question arises, how much spend relative to total will move this way? One would not move $995M based on where $5M ended up through direct attribution. A better rule of thumb would be, if 80% of IT spend can find a home based on a robust, defensible model, then the remaining 20% can leverage that money flow as a weighting strategy. If it is too difficult to determine how many emails a certain department is sending and storing, for instance, the cost allocation system provides a way to easily divide shared email costs.

As with all of these strategies, nothing prohibits improvement over time. Using cost-based allocation can work very well early on, and then as new activity data (described below) arrives, that new data can form a better basis for allocating what were "shared" costs due to a lack of good consumption information.

5 Consumption-based

Consumption-based allocations are the most accurate and fair analysis of all the methods presented thus far. This strategy tracks IT activity that actually happened, as captured in an authoritative system of record, and then uses those numbers to distribute shared costs. For example, help desk costs get allocated according to per-ticket costs that were driven by the help desk users (see below for a longer explanation), or storage costs get allocated to storage consumers based on the dedicated disk space actually allocated to those consumers.

Consumption-based allocations rely on some of the methods employed in the cost-based and manually weighted strategies. In an academic sense, all those weightings are based on "activity" of IT consumers. If the system is a robust application or database of some kind, then over time it can feed the cost model in fully automated fashion.

Help desks, PPM solutions, and asset management systems (CMDBs included) are all good sources for consumption-based allocations. An entire agency may use the help desk, but some services consume more help than others. If the help desk responded to 100 phone calls relating to customer relationship management (CRM) software, a consumption-based costing strategy would assign the labor costs of those 100 calls directly to the service that includes this CRM software. If the agency is spending $10M to run the help desk, and a quarter of the phone calls are related to the CRM software, $2.5M of help desk costs are then assigned to legal services.

This strategy can get sophisticated. A state and local government agency uses allocated help desks with consumption data. Every help desk resource belongs to a certain support tier. Each resource in a tier has a blended hourly rate. The company originally turned to call duration per tier as a mechanism for calculating the TCO per tier. But, as is very common, the quality of call duration data was low, since responders for the calls were not very diligent in recording their time accurately. So they went with a blend of salary and assumed duration per tier, based on ticket category. Each ticket generated a TCO for itself, and then the originator of the ticket incurred that ticket TCO cost. The sum of all these ticket TCOs added up to the help desk costs assigned to that mission component on the bill of IT. This all occurs monthly, with no manual intervention.

The powerful benefit of consumption-based allocations are that they enable IT to root out inefficient practices and cost reduction opportunities. Analysis of the help desk activity at a major software company found that a certain global division asked an average of 2.4 help desk questions per employee per month. Agency-wide, employees turned to the help desk for an average of 1.6 questions per employee per month. The IT leadership could then research why the global division needed 50% more help desk assistance, and whether there was any targeted training or other action they could take to bring that number down. Moreover, they could point to the financial savings that could result if this one division could get in line with the rest of the divisions. Again, this is the conversation that the CIO wanted to have, focusing on the business impact of internal behavior.

Figure 7: Consumption-based allocation strategy

Does this allocation strategy fit your agency?

An agency should favor the consumption-based strategy if it is concerned with fairness, interested in improvement and change, and able to collect usage data. Consumption-based allocations work for agencies focused on accuracy because each stakeholder division can be assured that costs are being divided fairly, and not by mere estimation or guessing. It's hard to ask a stakeholder to pay for an IT service if costs are just divided evenly, but if it's obvious that they are being charged on their own use, it's easier for them to accept and support.

Inevitably, collecting the usage data is the biggest challenge to implementing this strategy. It can be challenging to figure out where and how to get the data, and how to maintain and automate its upload into the financial model. Consumption data typically is voluminous and granular, and without purpose-built software designed to collect and leverage activity data for a strategy, this is often more trouble than it is worth. As a result, agencies commonly resist using the consumption-based strategy.

Consumption-based allocations do not always fit well where the culture favors budgeting predictability and consistency over aggressive change that swings departmental budgets one way or another. It is true that if each mission component changes its behaviors month to month, costs could swing wildly. Moreover, when allocating shared costs, behavior that drives down one's own weighting will result in more costs hitting elsewhere. The recipients of those costs are often quick to resent "spikes" in IT expenses through no activity change of their own.

If variability of cost allocation is a big concern, then the option exists to charge for services based on a published price, even when consumption drives the true TCO of the services. At a defense contracting firm, IT Finance charges for services based on a published "service price," and it simultaneously tracks and reports on an "over-under" by service. It trends its own ability to charge accurately and improve over time. Separating pricing from cost provides a buffer from the fluctuations of cost, enabling the business units to plan their budgets based on a stable IT service price. The IT and finance departments can figure out how to deal with any overage or underage on a regular basis.

Ultimately, the IT leadership needs to weigh (1) its own appetite for change relative to the incremental burden of collecting and cleaning data, (2) the ability of its own financial modeling platform to handle this data, and (3) its willingness to socialize and/or smooth the variability in cost assignments resulting from variable consumption data.

Multi-dimensional

The multi-dimensional strategy is a mix of strategies to produce a new weighting. All the strategies above can be used to varying degrees at various places in the financial and utilization models. A multi-dimensional strategy consists of using two or more dimensions of data at once, in order to produce a single weighting for use in cost allocation.

A multi-dimensional approach might say, "Take the web applications and multiply, for each one, (a) the number of logins, by (b) the number of critical network-related tickets, over the month." Out of that, each web application gets a weighting. That weighting splits up a subset of network charges across the web applications. It places a premium on beefing up service quality and driving down the relevant set of disruptive, high-cost tickets. To extend that example, the multi-dimensional approach could assign network costs to client desktops by saying, "Take the desktop applications and multiply, for each one, (a) the per-user license cost, by (b) the number of releases per year." Out of that, each desktop application gets a weighting. A further subset of the network charges might then use that weighting to allocate cost to the desktop applications. This strategy places a high premium on the process of propagating new application releases to individual desktops.

In general, a solution built for this strategy will look like a matrix or a cube of some kind, where the user defines the strategy for each dimension. Then a matrix multiplication will take place, producing the right weighting for each service. Potentially a wide mix of these multi-dimensional strategies can drive cost allocations up the model.

Does this allocation strategy fit your agency?

This strategy fits well at agencies that are more mature in their IT Financial Management in terms of (1) appetite and access to accurate data, and (2) proactive IT governance that pulls together in partnership the stakeholders in IT, Finance, and mission owners.

The relatively high level of sophistication and complexity of this approach threatens to come at the expense of transparency. Outsiders looking in are not as likely to make sense of a multi-dimensional rule set for carving up costs. Again, this comes back to governance and a commitment to work closely so that all stakeholders and IT consumers understand what is happening and where they have control over their impact to IT and to the bottom line.

Conclusion

IT cost allocations are a core component of any attempt to model IT financials and express them in a manner that makes sense to agency consumers. In broad terms, the allocation strategies boil down to several different categories, most of which are described above.

It is common and reasonable to find several strategies in play in a single model. And strategies will change over time. Nothing prohibits the adoption of a strategy for a particular allocation, with the intent to replace it in the near future as better and more automated data feeds become available.

When choosing a strategy for flowing costs from one cost pool to another, one must weigh several factors. How easily can one collect and refresh the necessary data? How clean is it? How important is the cost group to the overall TBM goals of IT leadership? How transparent is the process and the resulting report suite? What is the cultural appetite for change and maturity, and for accuracy versus predictability?

These IT cost allocation methods provide agencies with ample options on how best to share responsibility for IT expenses and drive toward the right efficiency and utilization targets. Regardless of agency missions and objectives, the range of IT cost allocation strategies assures every agency that's adopting TBM that they will find some strategies that will work for them.

Cost allocation strategies		
Strategy	**Strengths**	**Weaknesses**
Even spread	▪ Easy to implement ▪ Produces accurate grand total	▪ Does not fairly distribute cost based on use
Manually assigned percentage	▪ Makes use of in-house knowledge of how IT costs relate to mission components ▪ Can take advantage of existing spreadsheet-based financial models	▪ Figures are only as good as the expertise of the person making the estimates
Manually weighted	▪ Costs are based on actual use numbers ▪ Allocations easily entered and understood ▪ Puts control of costs in the hands of agency stakeholders	▪ Actual utilization data may not be readily available
Direct spend weighting of shared expenses	▪ Based on data used in other strategies ▪ Easy to implement	▪ Must be used in conjunction with other strategies ▪ Breaks down when more than a minority of expenses are allocated; too few dollars control the destination of the rest of the dollars
Consumption-based	▪ Provides very accurate cost allocations ▪ Incents behavior change, puts control in hands of the consumers of IT	▪ Can be challenging to collect the data ▪ Data must be updated on a regular basis ▪ Can result in swings or shifts in allocation percentages
Multi-dimensional	▪ Most appropriate strategies are applied to each situation ▪ Flexibility of building incentives, guiding behavior	▪ Strategies are less transparent ▪ IT governance, agency leader, mission owners, CPIC/budget teams, OCFO and acquisitions partnership

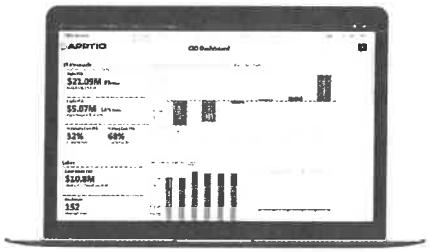
Allocate IT costs for TBM with Apptio® Cost Transparency

Apptio Cost Transparency brings together financial and operational data and applies an industry-standard framework, Apptio TBM Unified Model® (ATUM®), that includes a taxonomy of common IT functions aligned to pre-defined best practice allocation methods, feeding cost data to dozens of standardized reports. With Apptio Cost Transparency, IT leaders are able to clearly communicate IT value in a context that agency stakeholders can understand.

Apptio is the business system of record used to get full visibility into IT costs to make fact-based technology decisions that deliver deliver mission goals. ATUM standardizes the business information necessary for IT leaders to manage their technology business. ATUM is derived from Apptio's experience with 600+ customers and over 9,000 members of the Technology Business Management (TBM) Council. ATUM helps you drive better alignment between Finance, IT, and mission owners via common language and information about IT costs. ATUM provides confidence to manage the business of IT with the backing of peer-derived best practices.

Key benefits of Apptio Cost Transparency

- Start with basic cost allocations and refine them over time
- Granular self-service analytics for IT decision-makers
- Costs derived from financial ledger to form fully-burdened cost view
- Project investment and spend alongside status, priority, and budget
- Single view of fixed vs. variable costs across IT functions and technologies
- App costs broken down by run vs. change and by investment objective
- Resource alignment to top agency apps, projects, and initiatives



APPTIO
Cost Transparency

With prescribed financial and operational data sources, Apptio Cost Transparency will quickly get you to six important outcomes

- **Finances:** Proactively manage IT spend to budget
- **Labor:** Make informed staffing decisions
- **Infrastructure:** Understand infrastructure cost & trends
- **Projects:** Align project resources to mission priorities
- **Applications:** Manage application portfolio to maximize value
- **Mission components:** Drive shared accountability of IT costs

"By using this approach, known as Technology Business Management, GSA has cut 17.5% from its IT budget over the past four years, or well over $100 million recurring per year."

David Shive
CIO, GSA

Get started

Apptio fuels digital business transformation. Technology leaders use Apptio's machine learning to analyze and plan their technology spend so they can invest in products that increase the speed of business and deliver innovation. By translating raw costs, utilization, and billing data into business-centric views, IT leaders shift spending from maintenance to growth.

For more information, please visit Apptio.com/public-sector-it.

APPTIO

APPTIO TBM UNIFIED MODEL® (ATUM®)

The Standard Cost Model for IT

Executive summary

For many years, visionary IT leaders have been adopting the principles of Technology Business Management (TBM) in order to manage IT like a business. Apptio has facilitated this transformation by offering a purpose-built suite of TBM applications. At first, there were no recognized best practices, but several years ago, Apptio partnered with leading CIOs to launch the TBM Council. This partnership gave rise to a documented, consistent approach to TBM processes. Now it's time for the next step standardizing IT costing through the Apptio TBM Unified Model® (ATUM®).

The concept of a unified model emerged in response to pain points raised by Apptio customers, members of the TBM Council, partners, and analysts. These groups realized that it was difficult to gain alignment between IT, Finance, and Business Unit leaders because there was no consistent approach to classifying and modeling IT costs.

Much like other organizations that developed standards and frameworks – think of the guiding principles of GAAP for accounting – Apptio has developed ATUM to provide adaptable best practices for standardized modeling of IT costs and allocations. Essentially, ATUM defines a business information model to help the office of the CIO manage IT as a business more effectively.

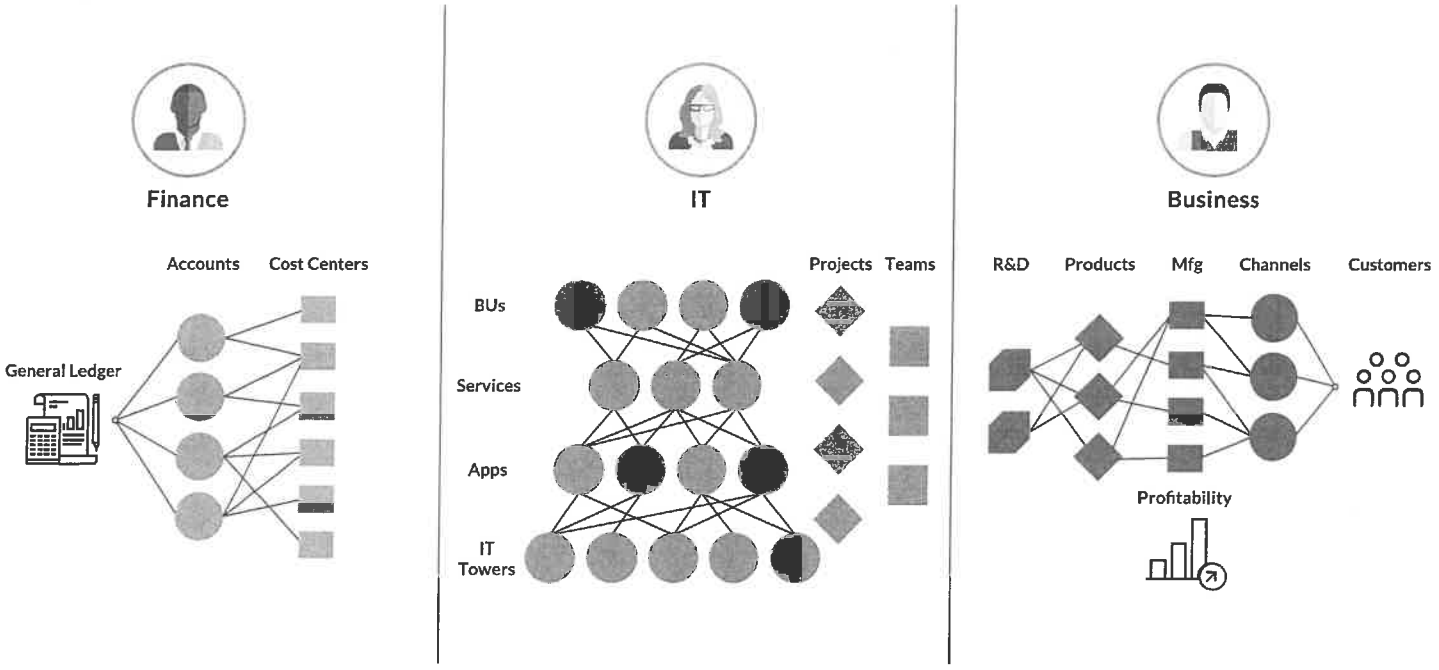
This paper describes ATUM and its components, and provides insight into the need and benefits that gave rise to ATUM.

"ATUM [took] the noise out of conversations that might have otherwise slowed us down"

Lisa Stalter, IT Finance Director, Cox Enterprises

The Need for a Standardized IT Costing

IT leaders increasingly rely on business principles to run their IT organizations and they need the ability to model and analyze costs and related metrics in a granular and context-relevant manner. The first instinct is to work with Finance to get reports on IT spend, but IT leaders quickly run in to problems. The data in the corporate accounting or ERP system, while fine for finance purposes, lacks the granularity or alignment with IT lexicon necessary to make better decisions about technology and conduct fact-based conversations with business partners.



Translating raw financial information from corporate ERP systems into appropriate IT context is key to the successful adoption of TBM principles. However, this translation is anything but simple. When IT organizations attempt to build this translation mechanism on their own, they encounter a host of challenges:

1. **It's hard to get agreement on IT terminology:** Stakeholders range from accountants, to service managers, to technologists, to software developers, and everyone has their own view driven by valid but disparate motivations.
2. **It's hard to get the math right:** Complex math is required to accumulate and apportion costs from finance-centric views into IT-centric structures that everyone agrees on. Understanding, let alone agreeing to these calculations, is beyond the patience of many.
3. **It's hard to get the right data:** Few individuals in IT are even aware of all the potential data sources that might contribute to accurate cost calculations; moreover data sources that were never meant to integrate often have gaps and alignment issues that undermine their value when used together.
4. **It's hard to defend:** Homegrown approaches seem like a good idea at first because organizations view themselves as "special" or "unique," but when your hard cost numbers generate controversy there's no external validation to reference in support of your methodology.
5. **It's hard to compare to your peers:** If every organization calculates their IT costs differently, there's no reliable or accurate way to compare across peers, which means there's no measuring stick for IT leaders to strive for.

To address these challenges, Apptio has developed the Apptio TBM Unified Model or ATUM.

What is ATUM?

The Apptio TBM Unified Model, or ATUM, is a specification that defines the elements of a standard cost model for technology. With standardized IT costs leaders can manage the business of IT more effectively.

Apptio developed ATUM based on our experience with hundreds of customers and our role as Technical Advisor to the TBM Council. Through this experience we became keenly aware of the challenges that result from organizations "going it alone". In response, Apptio created ATUM to embody the best practice patterns that we've identified among our customers for translating corporate finance data into standardized IT financial structures.

ATUM is a core capability of Apptio's suite of TBM applications. Apptio recommends ATUM as the starting point for most companies adopting TBM. Of course, there are times when an organization's needs call for deviation from the standard model. In such cases, ATUM provides the flexibility to extend and enhance the model (within constraints) to accommodate changing trends in IT and unique customer needs.

"Apptio's reporting and the way it aligns technology to the cost drivers and to the ATUM model so that it makes sense to business partners has been invaluable."

Kim Manigault, Former EVP and CFO, Technology & Operations at KeyBank

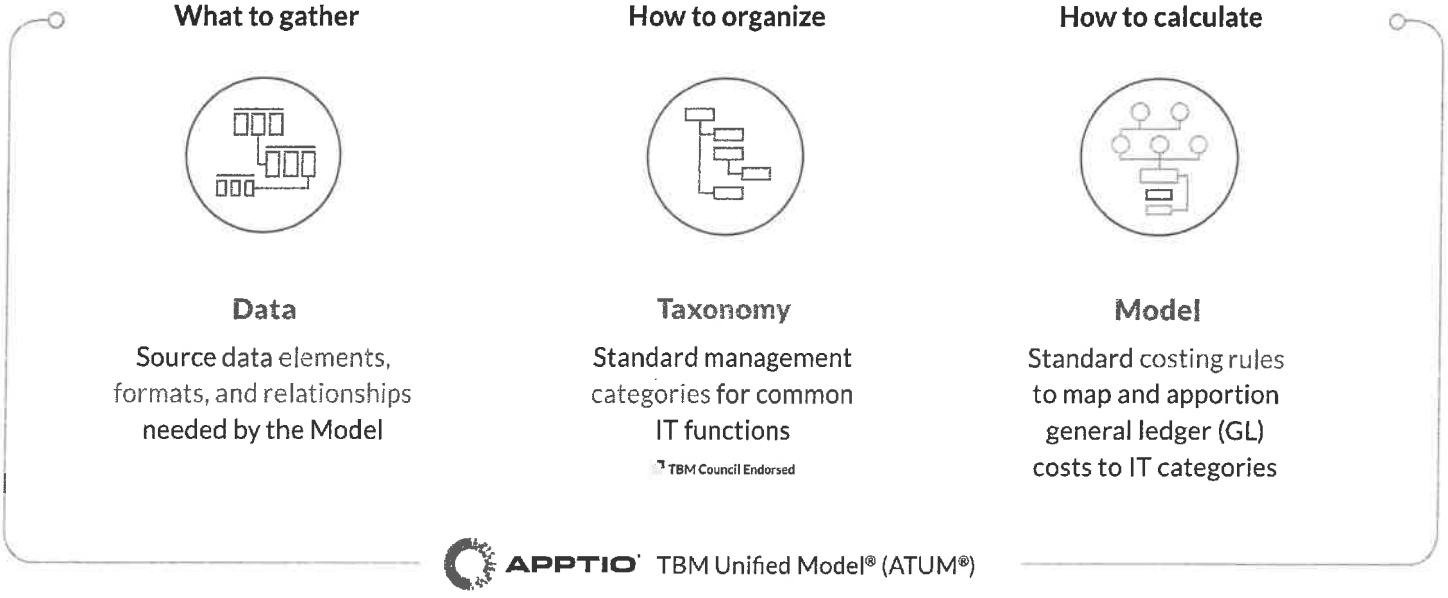
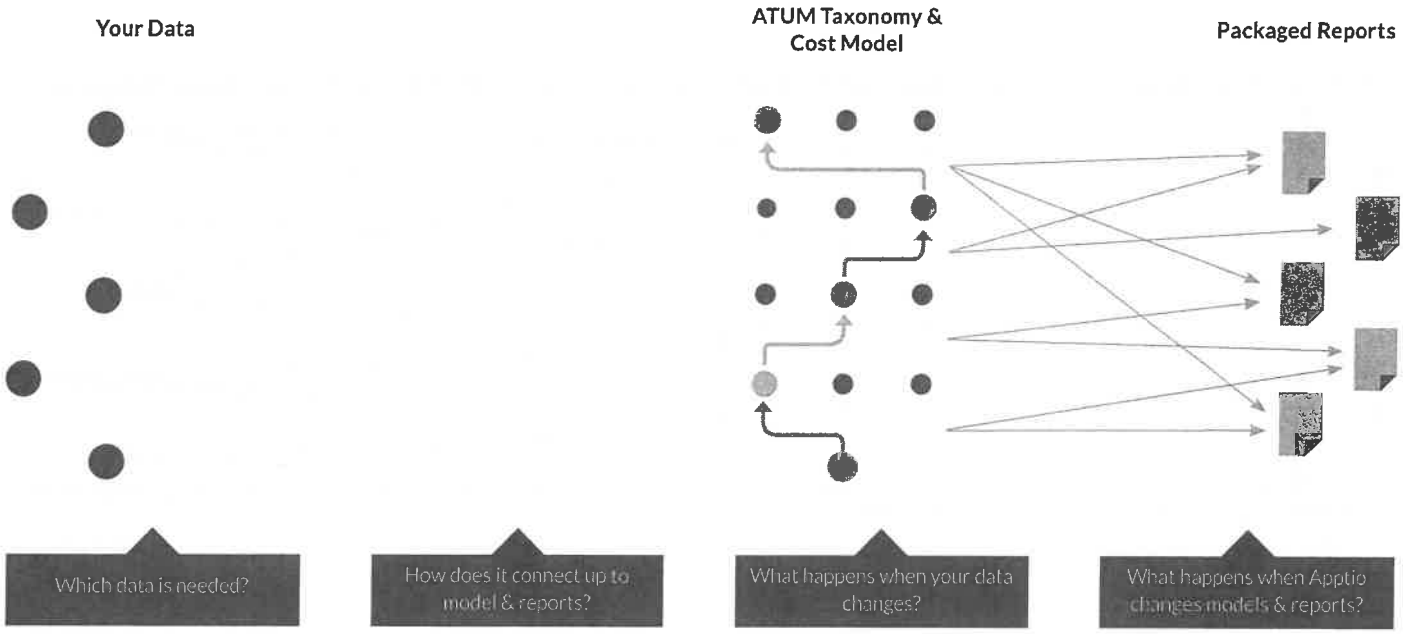


Figure 1: ATUM describes what data to gather for IT cost analytics, how to organize that data into relevant IT categories, and how to measure and route costs through those categories.

Data

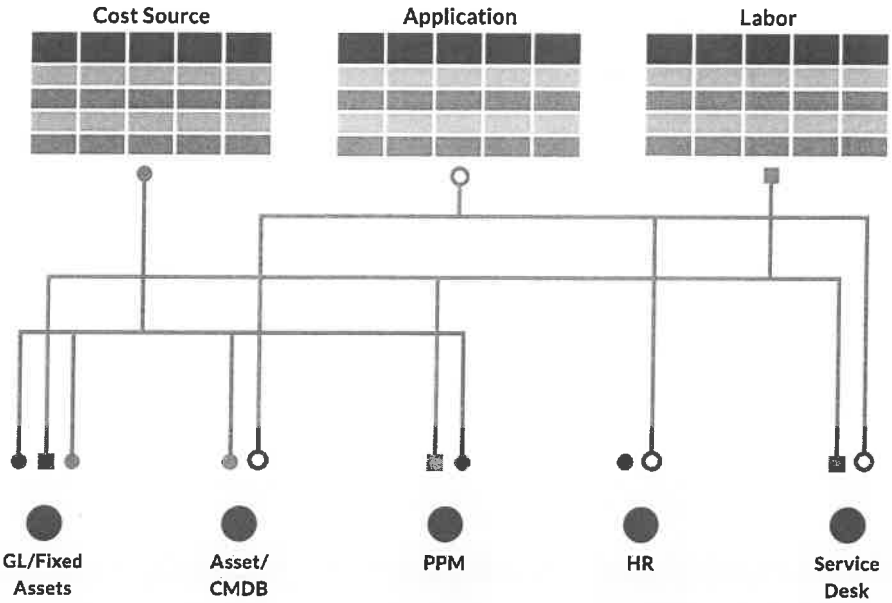
One of the most challenging aspects of adopting TBM disciplines is finding and integrating the right data to inform business decisions. Between Finance and IT, there are dozens of systems that contain a wealth of detailed data, but it's hard to identify which subset to use as "raw material" for cost analytics. To complicate things further, there's potential for chaos when either the data or analytics undergo the inevitable change that often seems to be the only constant in IT.



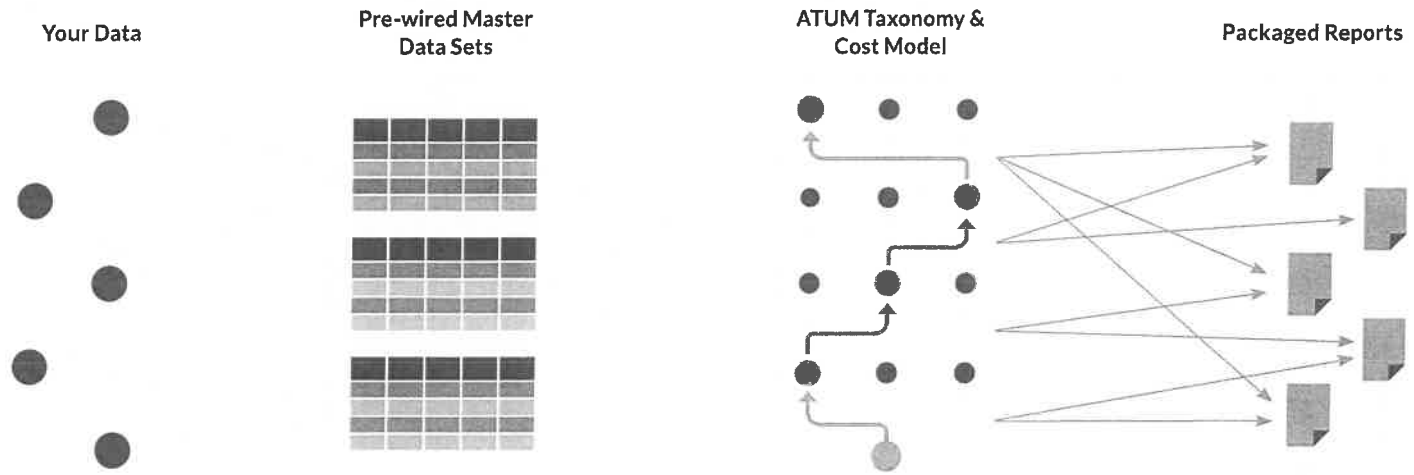
To address this, ATUM includes a collection of Master Data Sets that specify required and recommended data sources that supply appropriate raw cost information and operational data needed for intelligent cost routing. These include guidance on where to find the needed data, which columns are required/recommended/optional, and how they should be formatted.

Master Data Sets

5. Where to put it
4. How to format
3. Required, recommended, or optional
2. Which columns
1. What source



The other ATUM components and Apptio-supplied reports are "wired to" these Master Data Sets so that as soon as the correct raw data is gathered and mapped into them, cost calculations and reports automatically "light up" with resulting cost analytics.



Additionally, these Master Data Sets provide an abstraction layer that reduces the impact of changes in the structure of your data on the rest of ATUM and Apptio's out-of-the-box reports. Best of all, they enable Apptio to regularly deliver enhancements to the ATUM Model and our out-of-the-box reports while minimizing changes needed in customers' source data to adopt those enhancements.

Master Data Sets		
Application Units	Benchmark Industry	Physical Server
Applications	Benchmark Unit Cost	Server Units by Class
Business Unit Allocation	Cost Source to IT Resource	Servers
Cloud Service Provider	IT Resource Towers	Tickets
Cost Source	Labor	Storage Devices
Data Centers	Projects	Storage
Fixed Asset	Hypervisor	Storage Units by Tier
Benchmark Composition	Physical Server	Vendors

Table 1 ATUM specifies over two dozen Master Data Sets and hundreds of columns.

Taxonomy

In most organizations, there are as many viewpoints about how to describe and categorize IT functions as there are staff. This usually results in a mixture of prolonged debates on the merits of various categorization schemes, incorrect or inconsistent categorizations due to lack of clear category definitions, multiple simultaneous categorization schemes in different parts of the organization, and poor alignment with external categorization schemes such as industry benchmarks.

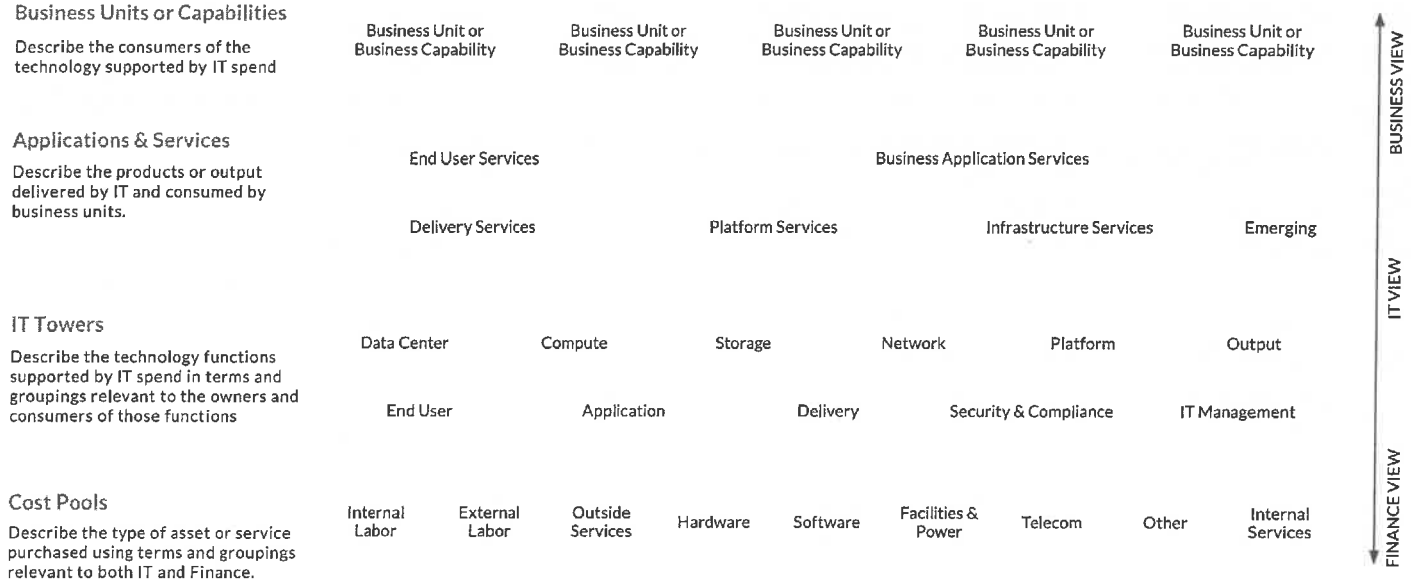
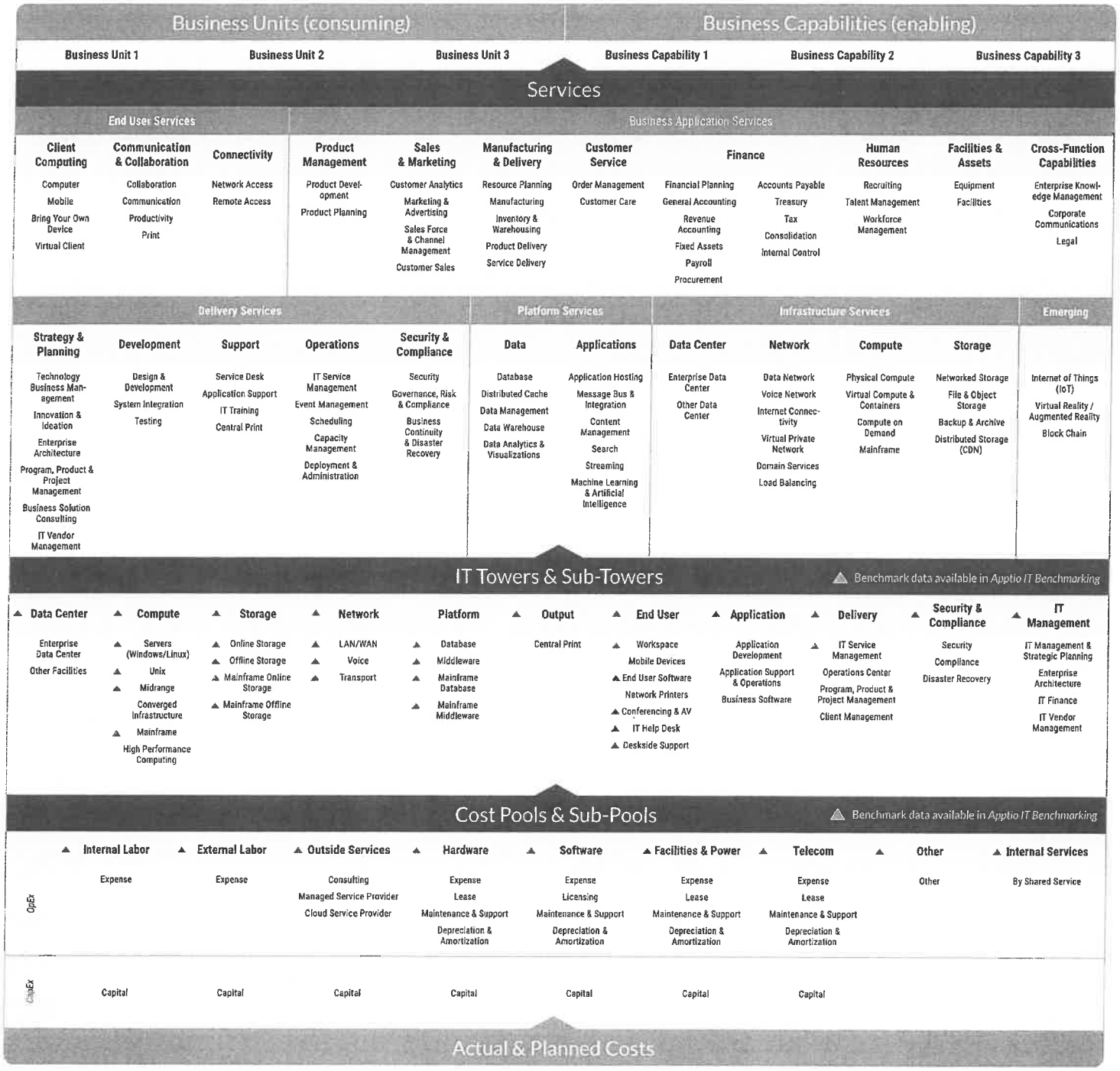


Figure 2: The TBM Taxonomy provides standard, benchmark-aligned IT categories.

To address this, the ATUM Taxonomy defines a hierarchy of IT categories into which IT costs should be organized. The Taxonomy is structured in four distinct layers with each actual or planned cost mapped and routed through all four layers, starting from the bottom. This categorization provides common terminology between Finance and IT departments and aligns with Apptio IT Benchmarking to enable easy and frequent peer comparisons.



For each Cost Sub-Pool and IT Sub-Tower, the Taxonomy describes the types of costs to be included.

Examples:

- The Hardware Expense cost sub-pool comprises non-capitalized purchases (e.g. spare parts, consumables or equipment below capitalization threshold).
- The Windows Compute IT sub-tower is comprised of costs associated with physical and virtual servers running a version of Microsoft's® Windows Server operating system; includes hardware, software, labor, and support services.

Model

In the Apptio platform, each cost entry extracted from cost sources such as the General Ledger (GL) is mapped into both the Cost Pool and IT Tower layers, frequently via straightforward mapping rules. More sophisticated allocation methods are then used to route and apportion these costs through the Applications and Services and Business Unit layers.

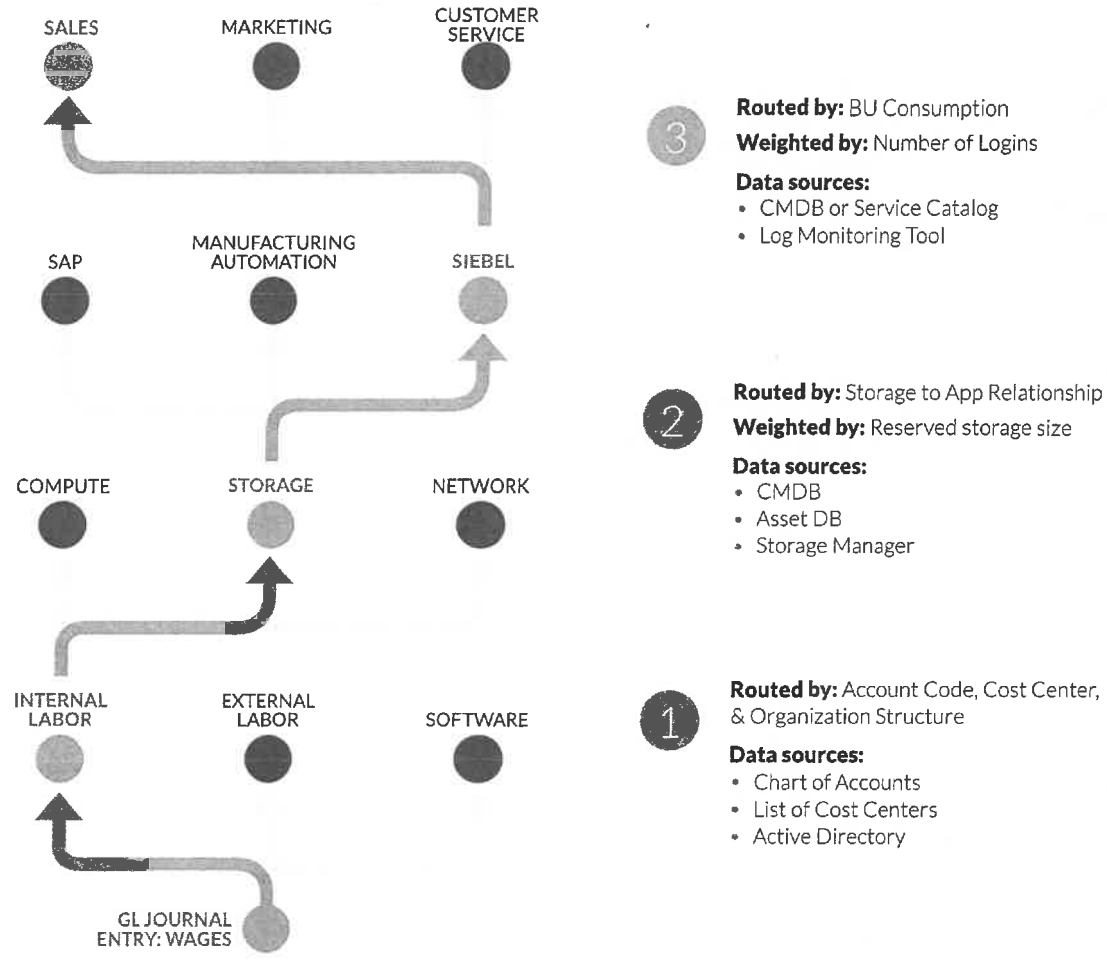


Figure 3: In this simplified example, operational data is used to intelligently route and apportion wages for an employee working on storage technologies.

The range of possible allocation methods is large, and selecting the right methods can be daunting. Similar to categorization, it may be difficult to gain agreement on the appropriate way to apportion and route costs to IT functions, applications, services, and consuming business units. Everyone has an opinion on how the math should be done, and because it often affects achievement of performance objectives, debates quickly become emotional when not grounded in fact or best practice.

To address this, ATUM prescribes a range of key drivers and interdependencies that define the cost composition and weighted allocation of these costs through elements of the Taxonomy.

Assumption-Based
Costs routed based on assumptions

Labor costs allocated using a 25% / 75% spread across Wintel and Unix Compute

Data Center costs estimated with a "rate card" value (e.g. $50/kW-Mo)

Application support labor costs allocated to applications based on "peanut butter spread"

Business Application costs allocated across LOBs based on % revenue

Attribute-Based
Costs weighted by an attribute of an item

Data Center cost allocations weighted by # of CPUs or kWhr power rating

Desktop cost allocations weighted by desktop make/model

Application support labor cost allocations weighted by size or complexity of an application

Business Application cost allocations weighted across LOBs based on # of assigned login accounts

Consumption-Based
Cost allocated by measured consumption

Data Center costs allocated based on measured power consumed during month

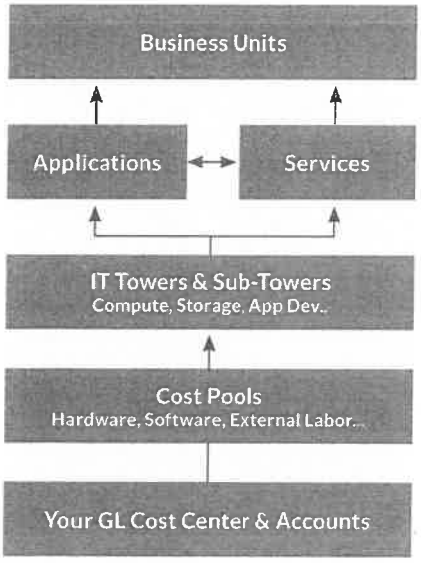
Server costs allocated to applications based on total compute hours per month

Application support labor costs allocated to applications based on support tickets

Business Application cost allocated across LOBs based on # of business transactions per month

Figure 4: ATUM specifies a range of available cost routing strategies to fit your TBM maturity, unique business needs, and available data.

By providing multiple best practice strategies, ATUM affords the flexibility to select the mix of routing strategies that best match each organization's TBM maturity, unique business needs, and available data. And since the costing methods in the Model are aligned with Apptio-supplied benchmark data, it's easy to use Apptio IT Benchmarks to perform apples-to-apples peer comparisons.



Route Costs from Apps to BUs
Assumptive: map apps to BUs and Business Capabilities (when 1:1 relationships)
Assumptive: estimated % of an app used per BU (when apps shared across BUs)
Managed: list of app users correlated to BUs via Active Directory
Consumptive: weighted by app logins

Route Costs from Linux to Apps
Assumptive: estimated % of all Linux servers used by each app
Managed: list of servers by app drives direct mapping
Managed/Consumptive: when multiple apps supported by one expensive server, weight by avg. CPU or memory usage using server performance by app ID

Route Costs from GL Actuals to Linux Tower
Linux Hardware: Dev, test and production servers, internal storage...
Linux Software: Operating System, Virtualization...
Linux Labor: Engineering, tech support

Figure 5: Organizations can select appropriate cost routing strategies for their business and adjust them over time as their TBM adoption matures.

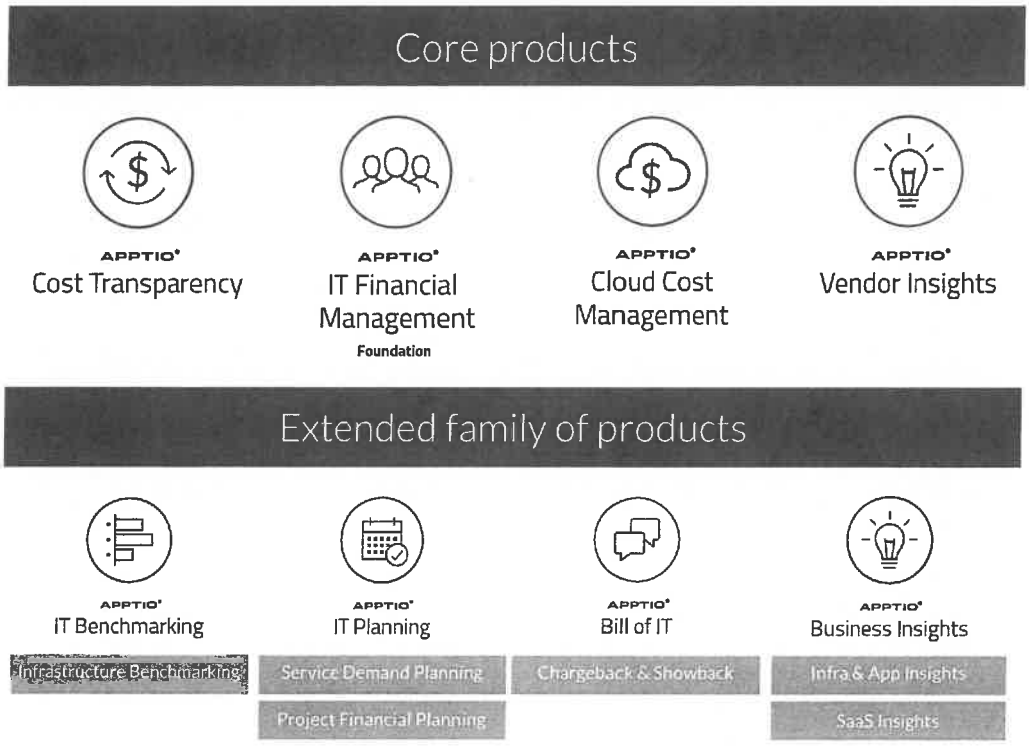
Benefits of ATUM

The Apptio TBM Unified Model offers numerous benefits for Apptio customers:

- **Enterprise IT Business Model:** Equips IT leaders to rapidly define their IT business model for aligning with the business on cost/consumption tradeoffs and IT value.
- **Defensible**: Increases confidence because the model is based on the experiences of 200+ IT organizations and endorsed by the TBM Council.
- **Accelerated Benchmarking**: Calculates IT costs in a manner that aligns with leading benchmarking methodologies to enable easy comparison with industry and internal peers.
- **Ecosystem Leverage**: Facilitates collaboration and learnings across TBM Council members, Apptio user groups, customers and the broader practitioner community, all aligned around a common approach.
- **Fast Time to Value**: Supports rapid realization of TBM benefits with pre-packaged product configuration and documented delivery methodology. *(See next section)*
- **Ongoing Improvements**: Simplifies the adoption of new capabilities and enhancements delivered by Apptio based on standardized ATUM interfaces.

Apptio's ATUM-Powered Suite of TBM Applications

Of course, a standard such as ATUM is of little value without a practical means for implementation. That's where Apptio's suite of TBM applications comes in. By embedding ATUM into our applications, Apptio accelerates adoption of best practice TBM principles. Plus, with Apptio Cost Transparency aligned to Apptio IT Benchmarking via ATUM, comparisons of IT costs vs. peer organizations become easy and routine.



Apptio's offerings start with four core TBM applications:

Apptio Cost Transparency helps CIOs drive business value by understanding the true cost and consumption of IT resources so they can make more informed decisions.

Apptio ITFM Foundation empowers IT finance professionals to align spend with business priorities by automating budgeting, variance analysis, and forecasting.

Apptio Cloud Cost Management helps infrastructure & operations leaders understand, manage, and optimize purchase and usage of public cloud.

Apptio Vendor Insights helps vendor managers optimize and align vendor portfolio spend, performance, and contract terms to IT strategy.

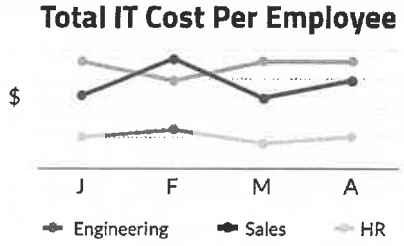
To learn more about Apptio's TBM software, visit www.apptio.com/applications.

Actionable Information from ATUM-Enabled Applications

With Apptio's TBM applications built around ATUM, organizations can get IT, Finance, and Business Units on the same page using actionable business information that facilitates better, faster decision-making.

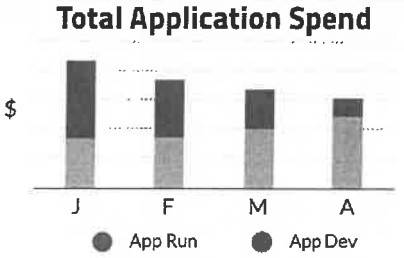
Top Facts About Business Units

- Resource, Application, and Service Costs per Business Unit (BU)
- IT Cost Impact of BU Consumption Behaviors
- IT Cost per Employee for Each BU (pictured)



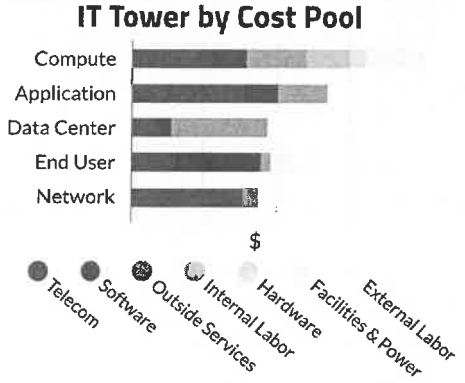
Top Facts About Applications & Services

- Total Cost to Buy, Build, and Run an Application (pictured)
- Asset, Resource, and Cloud Costs per Application or Service
- Application and Project Spend by Business Purpose



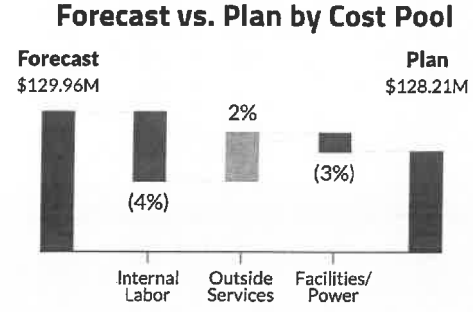
Top Facts About Infrastructure & Operations

- IT Tower Costs Broken Down by Cost Pool (pictured)
- Unit Costs with Peer Benchmarks
- Costs by Vendor and Labor Type



Top Facts About Overall IT Spend

- Forecast vs. Plan by Cost Pool (pictured)
- Run-the-Business vs. Innovation Spend
- Fixed vs. Variable Costs and Ratio



Adopting ATUM

Although ATUM is an optional component, Apptio recommends it as the starting point for most customers. Among Apptio's customers, over half have adopted a version of Apptio's standard model, including many who started with a fully custom approach and later recognized the value of adopting the standard to achieve the benefits described earlier.

Because every business is unique, ATUM and Apptio's packaged applications afford organizations the flexibility to adapt to their needs while retaining the benefits of packaged software. Many potential adjustments fall under the category of "configuration" wherein core functionality and standard compliance is maintained, upgrades are straightforward, it's easy to adopt new features from Apptio, and alignment with benchmark data is retained. These configuration changes are supported and may enable new use cases or expanded scope (such as the addition of a new IT tower to support industry-specific technology like medical devices), without making substantial changes to the standard offering.

Additionally, customers have the option of applying larger deviations from standard ATUM or Apptio's packaged applications. These "customizations" may modify ATUM components or packaged Apptio applications to accommodate specialized business practices or individual company preferences. While permissible, these customizations may complicate access to new features and versions, or degrade alignment with benchmark data.

Apptio Customer Success works with each customer to understand their unique needs and guide them to the best approach for realizing their desired outcome.

> *"Getting the taxonomy in place and having the capability Apptio has been able to provide—enabling us to speak in a business language that enables appropriate tradeoffs—has been extremely powerful. It's really been the accelerator of the transformation we've accomplished."*
>
> Guillermo Diaz, CIO, Cisco Systems

The TBM Council's Role

The TBM Council is a nonprofit organization that creates and promotes best practices for managing the business of IT. As the Council's technical advisor, Apptio provides intellectual property (IP) in pursuit of the Council's mission. Apptio vetted the ATUM Taxonomy through a series of peer reviews with over 50 principal members of the TBM Council in order to collect additional input to complement our own experience with customer implementations.

In mid-2014, the TBM Council formed and convened vertical industry workgroups – energy, financial services (banking-focused), insurance, health services, and media/entertainment – gathering CIOs and other TBM executives from over 120 distinct organizations, along with industry leaders from KPMG and ISG.

The industry workgroups recognized that one of their primary goals is to "develop industry-specific extensions to the Apptio-defined TBM Taxonomy (business model for IT)." These extensions will help answer tough questions facing the workgroup members. For example, banking executives often wonder if they're spending too much or too little on legacy platforms or how their costs will change when loan origination volumes fluctuate. By creating industry-specific elements of the Taxonomy, the workgroups can begin to answer those questions.

Additional ATUM Resources

Every IT organization can benefit from standardizing their approach to IT cost analytics, and Apptio is ready to help. Visit Apptio.com/ATUM to learn more about the Apptio TBM Unified Model, including:

- **Watch a seven minute video** and share this summary with your colleagues so they can quickly come up to speed on ATUM.
- **Order a free ATUM poster** to hang in your workspace so you can easily reference the ATUM Taxonomy and explain ATUM components to colleagues.
- **Get started on your TBM Journey today!** Contact the TBM experts at Apptio.com/get-started and we'll show you how standardized IT costing and our SaaS TBM applications can help you manage IT like a business.

Get started

Apptio (NASDAQ: APTI) is the business management system of record for hybrid IT. Learn more at **apptio.com**.

State of West Virginia Documents for Signature	**Required State of West Virginia signed documents**	**L**

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Shawn M. Noyes Shawn M Noyes, Area Director
(Name, Title)
Shawn M. Noyes, Area Director
(Printed Name and Title)
22 Tempus Way E Dennis, MA 02641
(Address)
617 901 5848
(Phone Number) / (Fax Number)
snoyes@apptio.com
(email address)

Designated Contact is as follows:

Shawn M. Noyes
Area Director
Apptio Corporation
22 Tempus Way
PO Box 507
East Dennis, Massachusetts 02641-0507
617.901.5848

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

Apptio Corporation
(Company)

Shawn M Noyes, Area Director
(Authorized Signature) (Representative Name, Title)

Shawn M. Noyes
(Printed Name and Title of Authorized Representative)

22 March 2022
(Date)

617 901 5848
(Phone Number) (Fax Number)

Apptio Corporation (Company)

Shawn M. Noyes, Area Director (Authorized Signature, Title)

Shawn M. Noyes, Area Director (Name and Title of Representative)

22 March 2022 (Date)

617.901.5848 (Phone Number)

REQUEST FOR PROPOSAL
WV Office of Technology (WVOT) RFP OOT22*01

Example:

Proposal 1 Cost is $1,000,000
Proposal 2 Cost is $1,100,000
Points Allocated to Cost Proposal is 30

Proposal 1: Step 1 – $1,000,000 / $1,000,000 = Cost Score Percentage of 1 (100%)
Step 2 – 1 X 30 = Total Cost Score of 30

Proposal 2: Step 1– $1,000,000 / $1,100,000 = Cost Score Percentage of 0.909091 (90.9091%)
Step 2 – 0.909091 X 30 = Total Cost Score of 27.27273

6.8. Availability of Information: Proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(h). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Apptio
(Company)

Shawn M Noyes
(Representative Name, Title)

617 901 5848
(Contact Phone/Fax Number)

snoyes@apptio.com
(Email)

22 March 2022
(Date)

Apptio Corporation

Shawn M. Noyes, Area Director
Contact Phone: 6179015848
Email: snoyes@apptio.com
Date: 22 March 2022

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[X] Addendum No. 1	[ ] Addendum No. 6
[X] Addendum No. 2	[ ] Addendum No. 7
[X] Addendum No. 3	[ ] Addendum No. 8
[ ] Addendum No. 4	[ ] Addendum No. 9
[ ] Addendum No. 5	[ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Apptio
Company

Authorized Signature

22 March 2022
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Apptio Corporation (Company)

Shawn M. Noyes (Authorized Signature)

22 March 2022 (Date)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Aptio Corporation of Shawn Noyer

Authorized Signature: Shawn M. Noyer Date: 22 March 2022

State of Massachusetts

County of Barnstable, to-wit:

Taken, subscribed, and sworn to before me this 22nd day of March, 2022.

My Commission expires August 2, 2024, 2024.

AFFIX SEAL HERE

NOTARY PUBLIC Sara P. McDonald

SARA P. McDONALD
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires
August 2, 2024

	Department of Administration **Purchasing Division** **2019 Washington Street East** **Post Office Box 50130** **Charleston, WV 25305-0130**	**State of West Virginia** **Centralized Request for Proposals** **Info Technology**

Proc Folder: 1006716 **Doc Description:** IT Financial Management (ITFM) System RFP **Proc Type:** Central Master Agreement			**Reason for Modification:**
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2022-02-28	2022-03-24 13:30	CRFP 0231 OOT2200000001	1

BID RECEIVING LOCATION
BID CLERK DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION 2019 WASHINGTON ST E CHARLESTON WV 25305 US

[redacted] by Apptio Corporation

Purchasing Affadavit Notarized

Edit My Account

Apptio Corporation **Email:** snoyes@apptio.com | **Phone Number:** 6179015848 | **Vendor Status:** Active

Account Information | Addresses & Contacts | Users | Commodities | Service Areas

Attached

Headquarters Information

Headquarters Legal Name Apptio Corporation	**Headquarters Account Code** VS0000039905	**Taxpayer ID Number** 261175252
Taxpayer ID Number Type EIN	**1099 Reportable** Yes	**Franchise Account** No
Headquarters Web Address www.apptio.com		

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Aptio Corporation of Shawn Noyer

Authorized Signature: Shawn M. Noyes Date: 22 March 2022

State of Massachusetts

County of Barnstable, to-wit:

Taken, subscribed, and sworn to before me this 23rd day of March, 2022

My Commission expires August 2, 2024, 2024.

AFFIX SEAL HERE

NOTARY PUBLIC Sara P. McDonald

SARA P. McDONALD
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires
August 2, 2024