# 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**

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## 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.
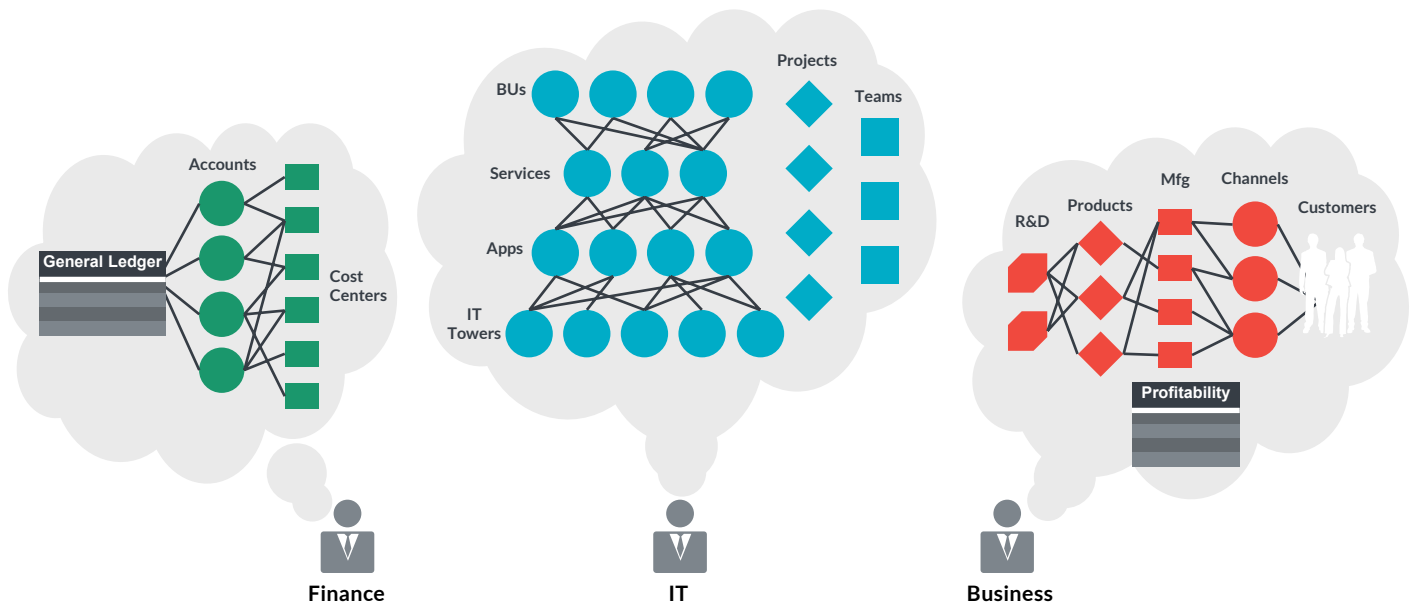


Translating raw financial information from corporate ERP systems into appropriate IT context is key to the successful adoption of TBM principles. However, this translation is anything but simple. When IT organizations attempt to build this translation mechanism on their own, they encounter a host of 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 200+ 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.

| *What to Gather* | *How to Organize* | *How to Measure* |
|---|---|---|
| DATA | TAXONOMY | MODEL |
| Source data elements, formats, and relationships needed by Model | Standard management categories for IT | Standard costing rules to map and apportion GL costs to IT categories |

**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.

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.

*"ATUM provided a familiar, industry-proven model that everyone could easily get their hands around"*

**Lisa Stalter, IT Finance Director, Cox Enterprises**

## 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.



| **Your Data** | **ATUM Taxonomy & Cost Model** | **Packaged Reports** |

| Which data is needed? | How does it connect up to model & reports? | What happens when your data changes? | What happens when Apptio changes models & reports? |
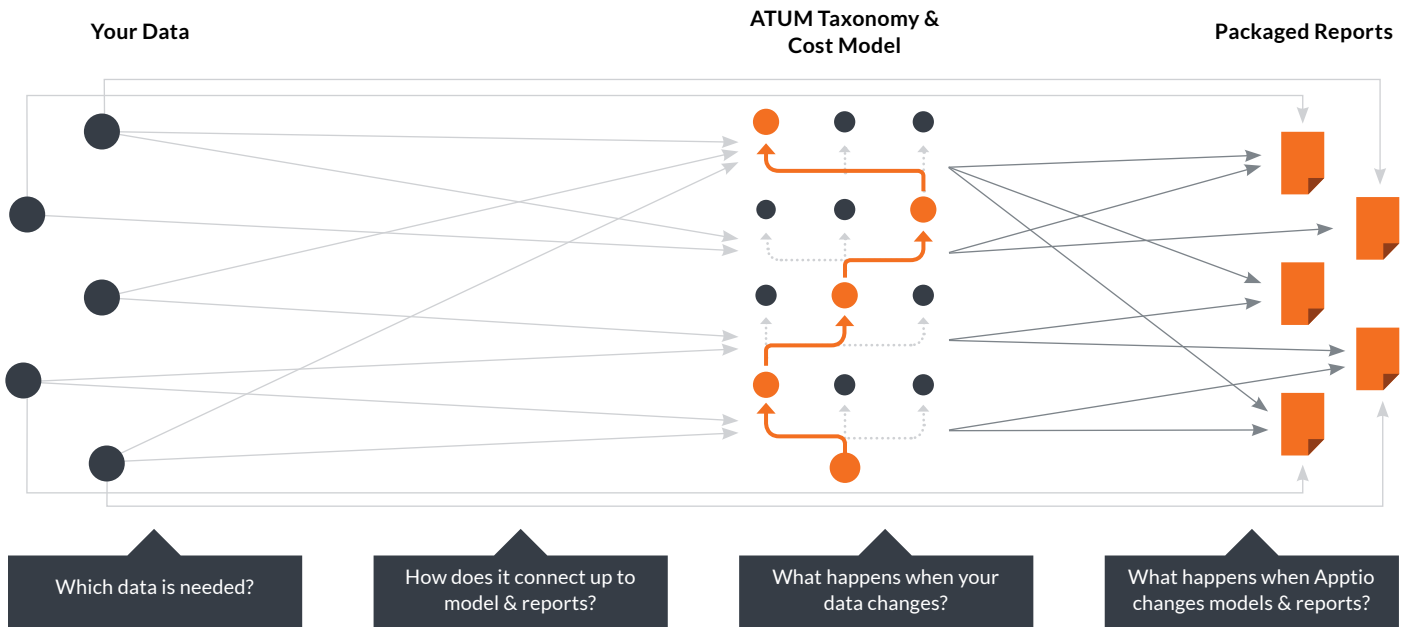
To address this, ATUM includes a collection of Master Data Sets that specify required and recommended data sources that supply appropriate raw cost information and operational data needed for intelligent cost routing. These include guidance on where to find the needed data, which columns are required/recommended/optional, 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

Cost Source     Application     Labor

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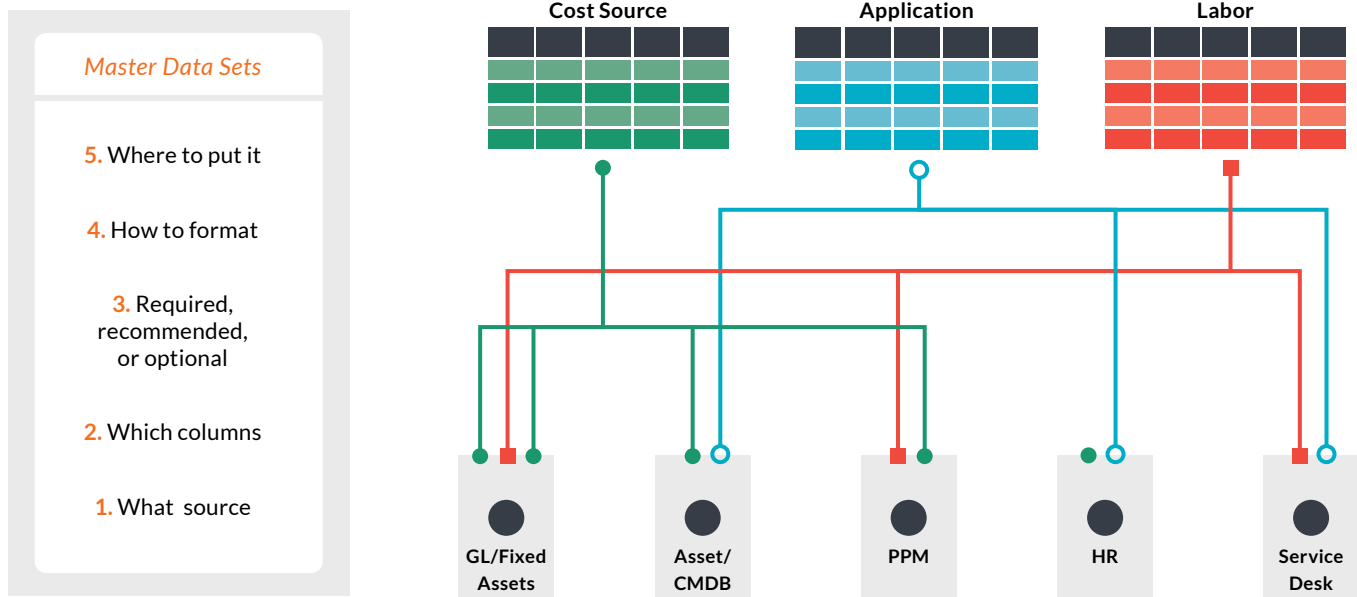
The other ATUM components and Apptio-supplied reports are "wired to" these Master Data Sets so that as soon as the correct raw data is gathered and mapped into them, cost calculations and reports automatically "light up" with resulting cost analytics.
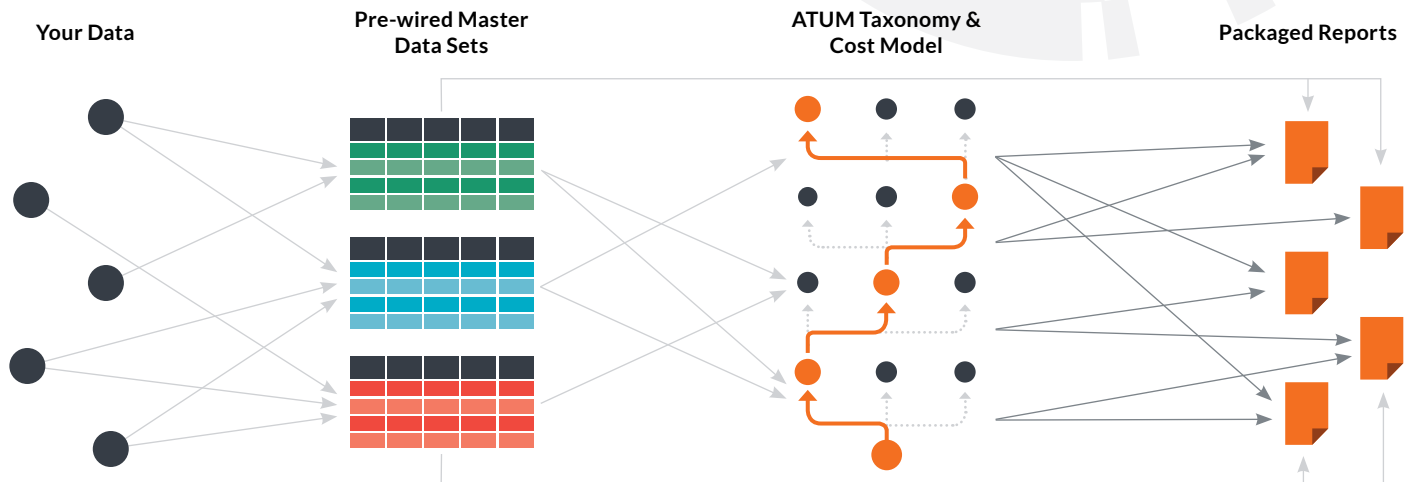


Additionally, these Master Data Sets provide an abstraction layer that reduces the impact of changes in the structure of your data on the rest of ATUM and Apptio's out-of-the-box reports. Best of all, they enable Apptio to regularly deliver enhancements to the ATUM Model and our out-of-the-box reports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



**Figure 2:** Apptio Data Advisor provides specific guidance for obtaining appropriate source data columns for each Master Data Set, including common source systems and applications.

| 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.

**Business Units**
Describe the consumers of the technology supported by IT spend

| Business Unit 1 | Business Unit 3 | Business Unit 2 | Business Unit 4 | Business Unit 5 |

BUSINESS VIEW

**Applications & Services**
Describe the products or output delivered by IT and consumed by business units

| Individual Apps by Business Capability | End User Services | Technology Services |
| Line of Business Management & Support | Client Computing Connectivity Communication & Collaboration | Application & Integration IT Professional Services Hosting |

IT VIEW

**IT Towers & Sub-Towers**
Describe the technology functions supported by IT spend in terms and groupings relevant to the owners and consumers of those functions

| Data Center | Storage | Compute | Network | Communication | Output |
| End User | Application | Delivery | Security & Compliance | IT Management | |

FINANCE VIEW

**Cost Pools & Sub-Pools**
Describe the type of asset or service purchased using terms and groupings relevant to both IT and Finance.

| Internal Labor | External Labor | Hardware | Software | Outside Services | Facilities & Power | Telecom | Other |

**Actual & Planned Costs**

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.

## Business Units

| Business Unit 1 | Business Unit 2 | Business Unit 3 | Business Unit 4 | Business Unit 5 |
|---|---|---|---|---|

## Applications & Services

### Individual Applications by Business Capability

| Line of Business | Management & Support |
|---|---|
| Strategy & Plan | Finance |
| Design & Build | Human Resources |
| Market & Sell | Legal |
| Take Orders | Facilities |
| Deliver Product | Communications |
| Service Customer | |

### End User Services

| Client Computing | Connectivity | Communication & Collaboration |
|---|---|---|
| Basic Workspace | Network Access | Conferencing |
| Technical Workspace | Remote Access | Collaborative Workspace |
| Shared Workspace | | Messaging |
| Traveling Workspace | | Email |
| Copy/Print/Fax/Scan | | Phone & Voicemail |

### Technology Services

| Applications & Integration | IT Professional Services | Hosting |
|---|---|---|
| Application Design & Dev. | Program & Project Mgmt. | Application Hosting |
| Application Support | Business Process Mgmt. | Web hosting as a Service |
| Quality Assurance | Enterprise Architecture | Platform as a Service |
| | Service Desk | Database as a Service |
| | Deskside Support | Compute as a Service |
| | | Storage as a Service |
| | | Connectivity as a Service |

## IT Towers & Sub-Towers

🔲 TBM Council Endorsed      ⚠ BENCHMARK DATA AVAILABLE FROM APPTIO

| Data Center | ▲ Compute | ▲ Storage | ▲ Network | Communication | Output | ▲ End User | Application | Delivery | Security & Compliance | IT Management |
|---|---|---|---|---|---|---|---|---|---|---|
| Enterprise Data Center | ▲ Windows  Database | ▲ Tier 1 | ▲ LAN | Circuits | Central Print | ▲ Workspace | App Dev | Ops Center | Security | IT Mgmt. & Strategic Planning |
| Other Facilities | ▲ Linux  Middleware | ▲ Tier 2 | ▲ WAN | Usage | Post Processing | Mobile Devices | App Support & Ops | Project Mgmt. | Compliance | Enterprise Architecture |
| | ▲ Unix  Mainframe Database | ▲ Tier 3 | ▲ Voice | | | ▲ Service Desk | LoB Software | Client Mgmt. | Disaster Recovery | IT Finance |
| | ▲ Mainframe  Mainframe Middleware | ▲ Tier 4 | Other Network | | | Field Support | Cloud Apps | Cloud Ops | Cloud DR | IT Vendor Mgmt. |
| | Converged Infrastructure  Cloud Platform | Cloud Storage | Cloud Network | | | Cloud Desktop | | | | |
| | Cloud Windows | Cloud Archive | | | | | | | | |
| | Cloud Linux | | | | | | | | | |

## Cost Pools & Sub-Pools

🔲 TBM Council Endorsed      ⚠ BENCHMARK DATA AVAILABLE FROM APPTIO

| ▲ Internal Labor | ▲ External Labor | ▲ Hardware | ▲ Software | ▲ Outside Services | ▲ Facilities & Power | ▲ Telecom | ▲ Other |
|---|---|---|---|---|---|---|---|
| Internal Labor | External Labor | Depreciation | Depreciation | Consulting | Depreciation | Telecom | Other |
| | | Lease | Lease | Managed Service Provider | Lease | | |
| | | Expense | Expense | Cloud Service Provider | Expense | | |
| | | Maintenance & Support | Maintenance & Support | | Maintenance & Support | | |

## Actual & Planned Costs

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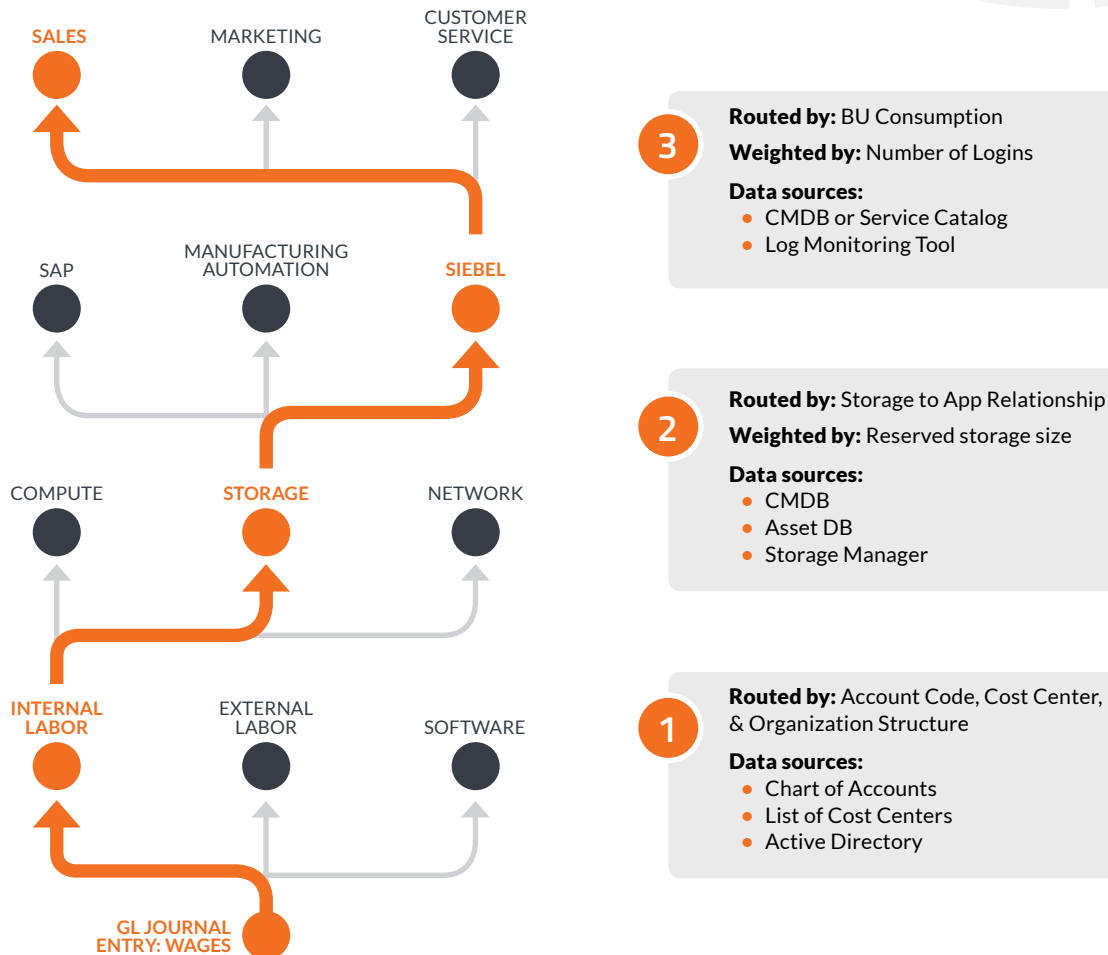
*Examples:*

- *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.*
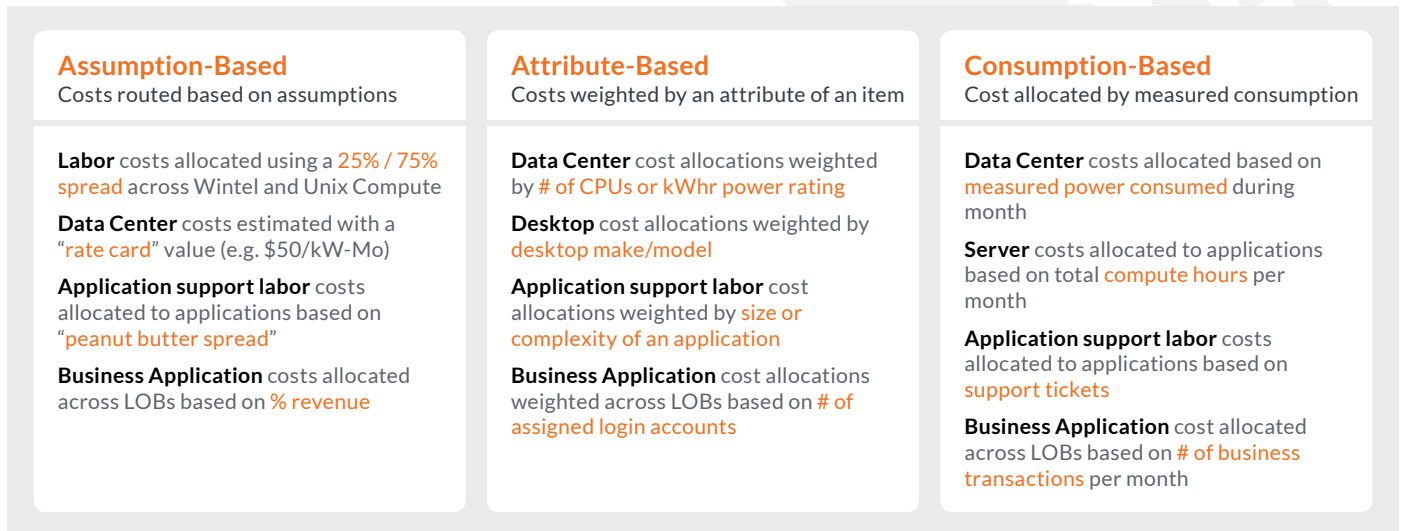
 http://www.apptio.com

## 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.



**3**
**Routed by:** BU Consumption
**Weighted by:** Number of Logins
**Data sources:**
- CMDB or Service Catalog
- Log Monitoring Tool

**2**
**Routed by:** Storage to App Relationship
**Weighted by:** Reserved storage size
**Data sources:**
- CMDB
- Asset DB
- Storage Manager

**1**
**Routed by:** Account Code, Cost Center, & Organization Structure
**Data sources:**
- Chart of Accounts
- List of Cost Centers
- Active Directory

**Figure 3:** In this simplified example, operational data is used to intelligently route and apportion wages for an employee working on storage technologies.
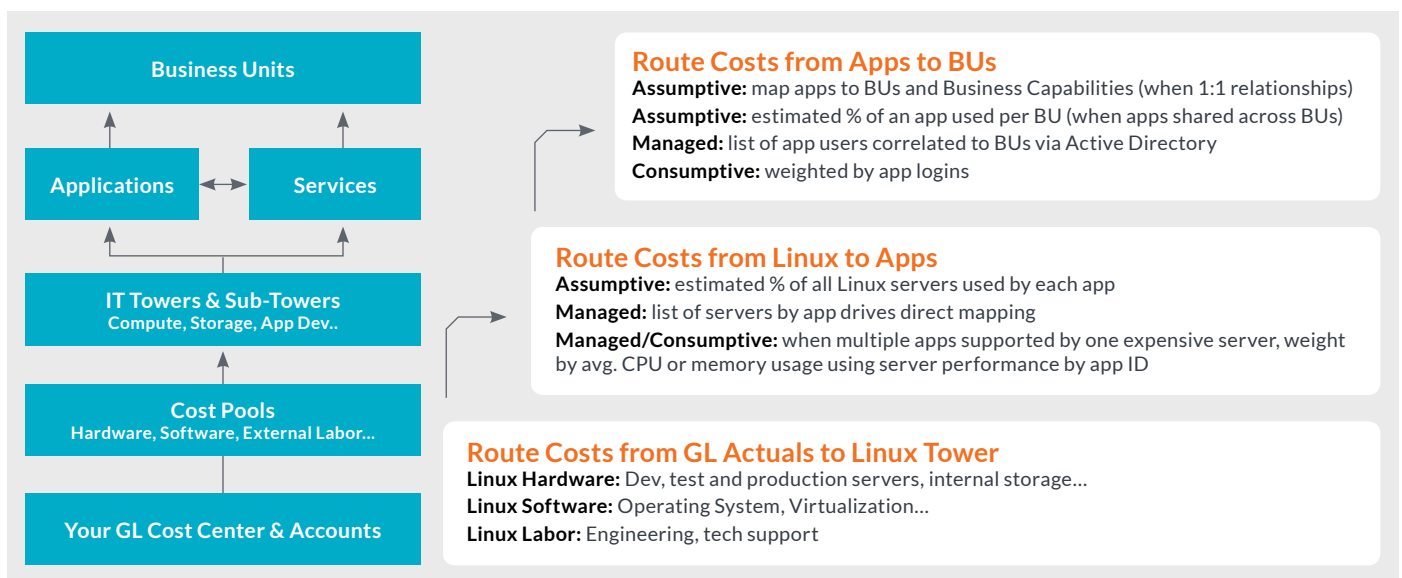
The range of possible allocation methods is large, and selecting the right methods can be daunting. Similar to categorization, it may be difficult to gain agreement on the appropriate way to apportion and route costs to IT functions, applications, services, and consuming business units. Everyone has 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.

**Business Units**

**Applications** ↔ **Services**

**IT Towers & Sub-Towers**
Compute, Storage, App Dev..

**Cost Pools**
Hardware, Software, External Labor...

**Your GL Cost Center & Accounts**

### 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.
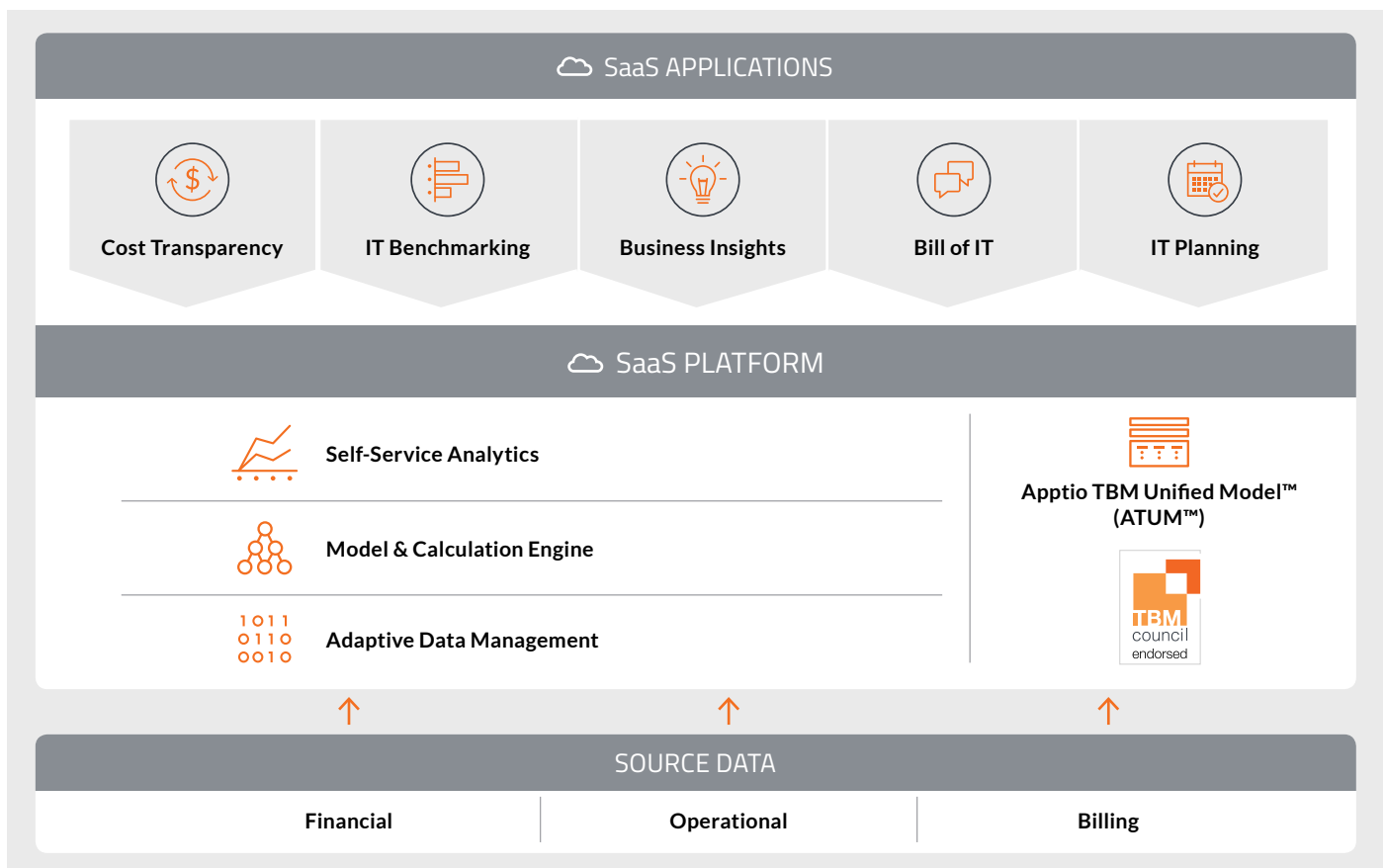


**Figure 6:** Apptio's Suite of TBM applications leverage ATUM to automate TBM.

## 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
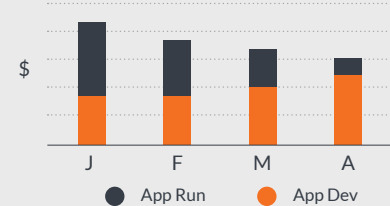- IT Cost per Employee for Each BU (pictured)

**Total IT Cost Per Employee**

$

J  F  M  A

━━ Engineering  ━━ Sales  ━━ HR
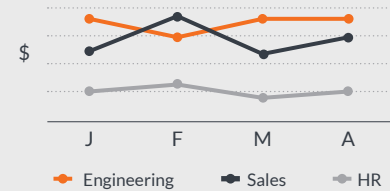
### Top Facts About Applications & Services

- 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

**Total Application Spend**

$

J  F  M  A

● App Run  ● App Dev

### Top Facts About Infrastructure & Operations

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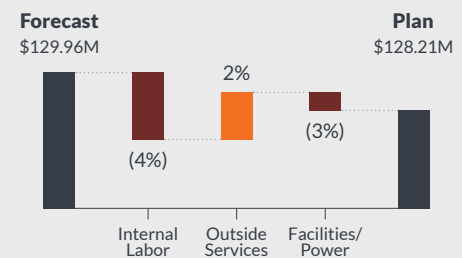- Costs by Vendor and Labor Type

**IT Tower by Cost Pool**

Compute
Application
Data Center
End User
Network

$

Telecom  Software  Outside Services  Internal Labor  Hardware  Facilities & Power  External Labor
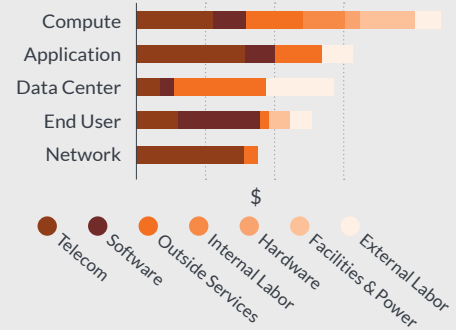
### Top Facts About Overall IT Spend

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

**Forecast vs. Plan by Cost Pool**

**Forecast**
$129.96M

**Plan**
$128.21M

2%

(4%)

(3%)

Internal Labor  Outside Services  Facilities/Power

http://www.apptio.com

### 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.

*"Without ATUM, we would have struggled to get traction…and agree on definitions and terms of services"*

**Lisa Stalter, IT Finance Director, Cox Enterprises**

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.

## 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.