White Paper

From IT assets to IT services

Abstract

The management architecture of information technology within enterprises is usually applied by a top down approach; it all starts with IT strategy which determines key decisions such as outsourcing or insourcing services or technology standards decisions. The process then typically moves down towards the management of IT as a business, ending up with the technical management of IT operations and resources.

In this series of white papers, we will propose an alternative approach to managing information technology based on a bottom-up approach. We will illustrate how current methodologies and frameworks could be utilized to achieve this vision if planned from a slightly different perspective.

This paper is the first in a series of 8 papers that will discuss these topics in detail. We will start by providing a high level overview first; subsequent papers will discuss the various components and steps of the methodology in greater detail.

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Introduction

The complexity of managing information technology assets is not a linear function of the number of assets under management. In other words, IT management challenges typically grow exponentially after crossing a certain number of assets under management (our experiences point to the figure of 150 backend assets as a breaking point).

Upon crossing this threshold, organizations suddenly begin to experience unexpected challenges just to maintain the level of service offered to the business and start looking into new IT management paradigms to help them coop with this growth in complexity, adoption of different frameworks related to enterprise architecture emerge, strategic IT management suddenly consumes an entire layer of managers and architects, and costs related to the administrative management of IT skyrocket.

In a series of white papers beginning with this one, we will propose a roadmap built on the promise that a bottom-up development of the IT information model used to manage information technology will allow for smoother transition into the world of complexity IT. The model begins with IT asset management as a starting point and ends with managed IT services as a result.

We explore practical guidelines that reduce the administrative overhead of managing IT and when adopted as an entire system, achieve goals only known to IT managers to be wishful thinking; those being end-to-end IT service management capabilities.

Methodology Proposed

End-to-end management of IT services is a major step in realizing the business potential of Information technology within enterprises. Such a holistic view ultimately serves as a strategic decision support system most useful when difficult IT trade-offs emerge. This approach also allows to quickly drilldown to a very granular level of any IT service if the model if built accurately. To achieve this vision, IT must recognize and manage its service offerings from financial, administrative, and technical aspects. Executing this vision has been known as the holy grail of IT management.

While most organizations agree to the value realized through an integrated management approach to IT services. The traditional models available in the market make this realization a daunting task, mainly due to the difficulty of establishing the core building blocks of the approaches available in the market. Effective adherence to a given enterprise architecture or an accurate establishment of a CMDB are usually multiyear projects that often fail to realize any value in due time.

The methodology we suggest here is based on starting the journey from the boring but realizable side of basic book keeping, integrating each step of the information collection activity into daily operational processes, and building the definition model in separate but integrated layers until a final information model for IT is built. The model will also be self-maintained, self-improved, technology independent, and cheap (could even be entirely based on spreadsheets only)

As we move from a granular (asset) level to a higher (service) level, apart from the benefits of the complete adoption of the model, value generation also occurs within each step independently.

The proposed approach is divided into six steps which are the following:

1. Adoption of IT Asset Management as a core administrative capability
2. Formalizing Application Dependency Mapping as part of operational disciplines
3. Creating a Service Definition Model that depends entirely on the steps above
4. Building a capacity and cost model for every service
5. Developing pricing strategies and charge models independent from the cost model
6. Setting-up a flexible billing model that could cater to a range of customers wider than the internal organization
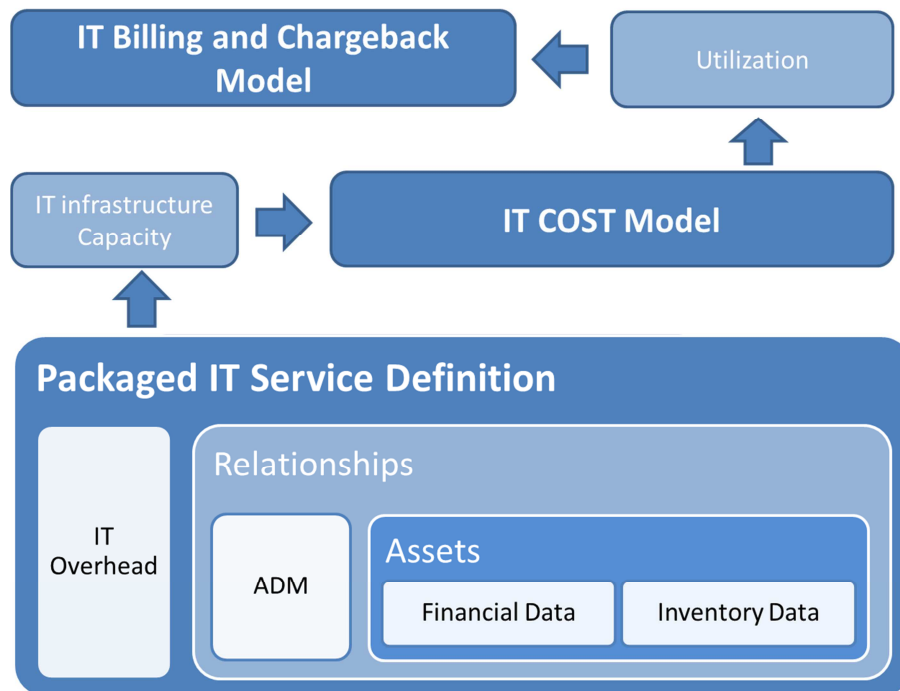

Figure 1: High Level Methodology Flow

We will now briefly review each step described above. A deeper and more complete drill down will be the subject of subsequent white papers released in this series.

1. **IT Asset Management (ITAM)**

In most organizations, IT asset management has traditionally meant the proper accounting of servers, network devices, software licenses, and PC's. Asset management is typically associated with tasks such as labeling hardware or running a network inventory scans. We will suggest here, that an entire value proposition is left out from the traditional view of asset management. If the information collected within any IT asset management exercise is broadened a bit to include aspects such as contracts, warranty data, asset status, and purchasing details, we facilitate two critical achievements.

1- Understanding the total cost of ownership for any asset throughout its lifecycle within the organization.
2- Link purchasing, Financial, HR, and IT processes related to IT assets together which significantly reduces overhead due to repetition of tasks within the organization and improves the accuracy of information used by each entity

With this approach to IT asset management, we primarily focus on processes that highlight the interdependences between financial transactions, asset ownership and technical applications of IT assets. Building these interdependencies will transform IT asset management from a basic inventory process into a real-time source of information about the overall status of IT assets.

2. **Application Dependency Mapping**

From an operational perspective, organizations need to effectively manage IT assets with respect to their identity and role. The earlier part is easily solved with the ITAM but the latter needs a special effort. Application Dependency Mapping (ADM) fulfills this role by associating different assets with each other to form the next logical step, which transforms assets into service building blocks.

ITAM is static and a one dimensional view of IT assets in the organization. ADM is dynamic, it describes the relations between the assets and the interdependencies assets have with each other. Notice that while assets within the organization may not change so frequently, their roles often do which is what ADM captures. ADM is built from multiple perspectives—server, network, Data, run-time dependencies, configuration settings, and other components. Each perspective provides additional insight into the role of each asset, the gathered data provides a holistic view into the complex IT environment. This dynamic picture of how the IT applications and infrastructure work together in the IT environment is typically used in IT monitoring and operations management roles, here we apply it as a strategic IT management tool.

3. **Service Definitions**

Attempts to define IT services are usually foiled by technical difficulties and by a lack of clear processes and methodologies. Most efforts fail because of their top down application and incorrect drive by the business side of organization. Typically a business requirement triggers a service provided by the IT department, and that service request slowly evolves into service design, implementation, and operation. This situation often leads to challenges on the IT side to maintain adherence to architectural standards.

In the approach we will propose here, a service definition is only a step up from ADM, Which means; before defining a service, all the assets under this service will be accounted for, assets that define the applications used will be related to each other, and processes that insure accuracy of changes to assets or relationships will be utilized. So in most cases, defining a new service would consist of mesh-up activities rather than actual service development. The key addition in terms of the IT data model in this step is the inclusion of indirect IT elements such as IT management overhead into the picture.

4. **IT Cost Model**

Its best to tackle the difficult challenges first and capacity has always been a difficult factor to estimate in the IT world. But based on the work done in the steps above, capacity estimation will be an easy task, thanks to the fact that in the earlier phases, allocation drivers have already been defined for each layer of the model. We already know how to split the capacity of an asset between applications, and we know how to split application capacities between services.

Capacity is important to know before engaging in any costing exercise; because capacity is what costs should be allocated by, not utilization. Once the capacity hurdle is resolved, cost model development for each service becomes simple, but forming a dynamic IT cost model does not. A vital step to undertake while developing the cost models is to insure that variables used in the model are actually linked into processes used to estimate capacity.

In the model we will propose in further detail, an approach to linking capacity variables to the cost model will be illustrated.

5. **Charge back and Billing**

In our model, cost and price of IT services have nothing to do with each other, they are separate and distinct, unlike cost, pricing is what C level executives use for strategic decisions such as competitive bids and so forth. Price is also used by many multinationals for cost transfer purposes. Thus keeping them apart makes sense. We will describe in detail the various charge back and billing strategies IT organizations can use in light of what their business leaders set for them in terms of "The Center Agenda" that is, how the organization leadership prefers to treat IT, be it a cost center, profit center, or even, an investment center.

Conclusion

This white paper highlighted the basic building blocks needed for adopting a bottom-up approach to IT management in which data driven steps mature to provide the foundation for defining a complete and dynamic IT service portfolio, along with its financial management requirements.

In the following papers in the series we will talk about each stage in the proposed approach along with the value generation opportunities within each individual stage.

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