Cloud Service Management and Governance

- Smart Service Management in Cloud Era -

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Cloud Service Management Reference Model

The primary purpose of cloud service management reference model is to streamline and support enterprise transformation to the digital world through cloud computing.

As cloud service management reference model, we will use here a value-chain based approach which comprises four value streams. The value streams are from the IT4IT service management framework, which we saw in the previous chapter. The reference architecture here is also aligned with most of the popular IT service management frameworks that we described in an earlier section.

IT4IT Reference Architecture provides more than just best practices for IT—it puts IT in the context of a business model that allows IT to be a contributing part of an enterprise, providing a roadmap for digital businesses to compete and thrive for years to come.

IT4IT specifically talks about IT value chain. One of the main things that IT organisations understand and build. The IT Value Chain is supported by the IT4IT Reference Architecture. The IT4IT Reference Architecture provides a prescriptive framework to support the value chain-based IT operating model and service-centric IT management ecosystem.

Reference Model Key Concepts

Before we go into deep dive, let's understand some basic concepts of service management.

Service Management: A set of specialised organisational capabilities for providing value to customers in the form of services. In order to develop 'specialised organisational capabilities', it requires:

- The nature of value
- The nature of the scope of the stakeholders involved

- How is value creation enabled through services?

Organisation: A person or a group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives. It can vary in size and complexity. Relationships between and within organisations are complex and can play both roles of the service provider and service consumer.
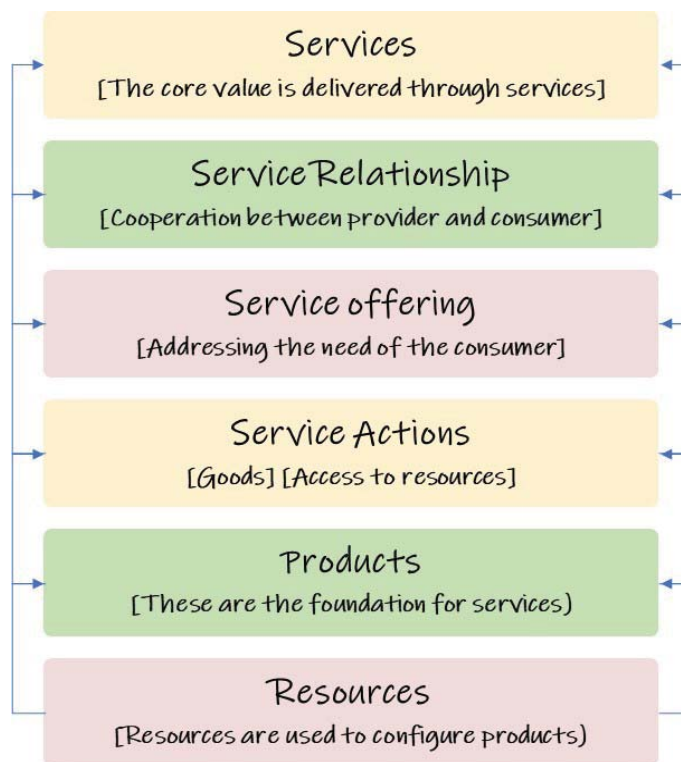

Figure 20 – Service Relationship Building Blocks

Service Consumers: service consumers are the organisations to whom services are delivered. This includes three specific roles:

- Customer: A person who defines the requirements for service and takes responsibility for the outcomes of service consumption

- User: A person who uses the service
- Sponsor: A person who authorises the budget for service consumption

Service Provider: A company or unit of a company that offer and provide services and establishes service relationships with service consumers to co-create value.

Product: A configuration of an organisation's resources designed to offer value for a consumer. The services an organisation provides are based on one or more of its products. Products are tailored to meet the requirements of the different consumer groups and to appeal to them. Usually complicated and not completely visible to the consumer.

Resources: Resources such as modules, elements, features, etc. are used to configure the products.

Value: The perceived benefits, usefulness and importance of something. The purpose of an organisation is to create value for stakeholders. Based on perception, whether on the service consumer side or service provider organisation side. Value is co-created through collaboration between service providers and service consumers, and it is not mono-directional or distant. Value = Utility + Warranty.

Value can come in many ways, such as increased productivity, reduced negative impact, reduced costs, the ability to pursue new markets, or a better competitive position.
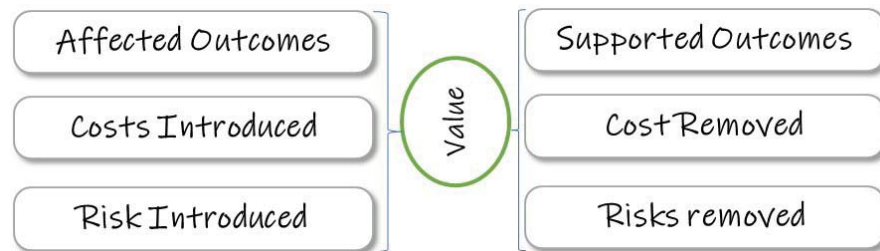

Figure 21 - Value Creation Explained

Service Relationship: A cooperation between a service provider and a service consumer. Established between 2 or more organisations to co-create value. Organisations often provide and consume several services at any given time.

Service Offering: A description of one or more services, designed to address the needs of a target consumer group. A service offering may include goods, access to resources, and service actions.

Service Relationship Management: Joint activities performed by a service provider and a service consumer to ensure continual value co-creation based on agreed and available service offerings.

Service Provision: Activities performed by a service provider to provide services.

Service Consumption: Activities performed by a service consumer to consume services. The service consumers can use their new or modified resources to:

- Create their own products
- Fulfil the needs of another target consumer group
- Become a service provider

IT Value Chain

A value chain is a sequence of activities performed by an organisation to deliver something valuable, such as a product or service, so the product or service should go through a series of events so that it can gain some value. The value chain framework helps organisations to identify the activities that are especially important for competitiveness, such as advanced strategy and achieve goals.

The value chain in IT4IT consist of 4 Value Streams:

- Strategy to Portfolio (S2P)
- Requirements to Deploy (R2D)
- Request to Fulfil (R2F)
- Detect to Correct (D2C)

These value chains can also be mapped to the traditional ways of representing such as plan, build, deliver and run – you can say phases of the life-cycle.

The Service Model

One of the aims of the IT4IT Reference Architecture is to create a consistent end to end model of everything IT delivers. The objective is to do this in a way that allows an organisation to rigidly attach more and more of the current information that exists in IT to a "Service Model backbone" that connects everything, from planning through development and consumption into operations.

According to IT4IT, there are three gradual approaches to a service life-cycle: and they are:
- Conceptual Service Model
- Logical service Model
- Realised Service Model

IT Value Streams and Service Models

Combining the value chain approach and the Service life-cycle approach, the four value Streams that IT4It talks about, produces some form of service in its life-cycle.

S2P: As part of Service to the portfolio value stream, IT organisation produces the conceptual service model, which means IT organisation understands what the service will be, how it would look like, it's not something which is released, but this is the positioning, which then goes to the requirement to deploy

R2D, R2F, D2C: in these three value streams, the service is being created, released and ready for deployment, e.g. R2D - as the name of the value stream says. Because of this value stream, we have a logical service model, kind of blueprint of the service but already quite specific as we have released, and as part of the request fulfilment (R2F), this release has been deployed, and all the users have been granted access rights to use

the service, all the subscriptions have been created, then we have the realised service model, and it becomes an integral part of CMDB, which then goes to detect to correct (D2C), which is basically operate.

It is a very generic and pervasive cycle of service – as you see it drives IT value from left to right from being more and more specific with the service, providing more value by having features and so on and going back, there is the feedback loop that we have to measure and create insights that could be used in other services.

Cloud Service Lifecycle

The goal of cloud life-cycle management is to manage the dynamic nature of the cloud environment, accelerating provisioning, facilitating flexibility, and rapidly meeting the needs of the business, and it's a value-chain based approach which comprises four value steams. They are the following:

Plan *(Conceptional Service Blueprint)*	Policy Management	Service Portfolio Management	Demand Management	Finance Management
Design *(Logical Service Blueprint)*	Defect and Test Management	Release and Deployment Management	Service Level Management	Capacity and Availability Management
Fulfil *(Realised Service Model)*	Offer Management	Catalogue Management	Fulfilment Execution Management	Usage and Chargeback Management
Run *(Realised Service Model)*	Incident Management	Problem Management	Knowledge and Collaboration	Change Enablement

	Configura-tion Manage-ment	Event Man-agement	Asset Man-agement	Runbook Automation

Table 2 - Cloud Service Lifecycle

#1 - Plan – Conceptual Service Blueprint

This part of the cloud service life-cycle consumes the Conceptual Service Blueprint and triggers service design work. This results in the creation (or modification) of the logical service model that contains more detailed requirements that describe more technical aspects of the service. This activity involves planning and creating a comprehensive, coherent view of the service considering Functional, technical aspects including standards and policies.

Plan value stream within Cloud Service Management is aligned with Strategy to Portfolio (S2P) reference model within IT4IT. This value stream is focused on the planning activities of IT and the subsequent selection of investments by IT in each period in order to respond to the demands of the business. It drives the IT Portfolio to Business Innovation. The S2P Value Stream is all about:

- Defining the objectives of new cloud services and aligning these to the business strategy and IT roadmaps.
- Optimising the portfolio of services that IT manages
- Documenting, consolidating and prioritising the demands on IT

Figure 22 - Strategy to Portfolio (S2P) Transformation

Strategy: (Enterprise Architecture)

- Define objectives
- Align business and IT roadmaps
- Set up standards and policies

Service Portfolio:

- Enterprise architecture
- Service portfolio rationalisation
- Create service blueprint and roadmap

Demand:

- Consolidate demand
- Analyse priority, urgency, and impact
- Create new or tag existing demand

Selection: (Proposal)

- Business value, risk & costs, benefits
- Resources
- What-if-analysis
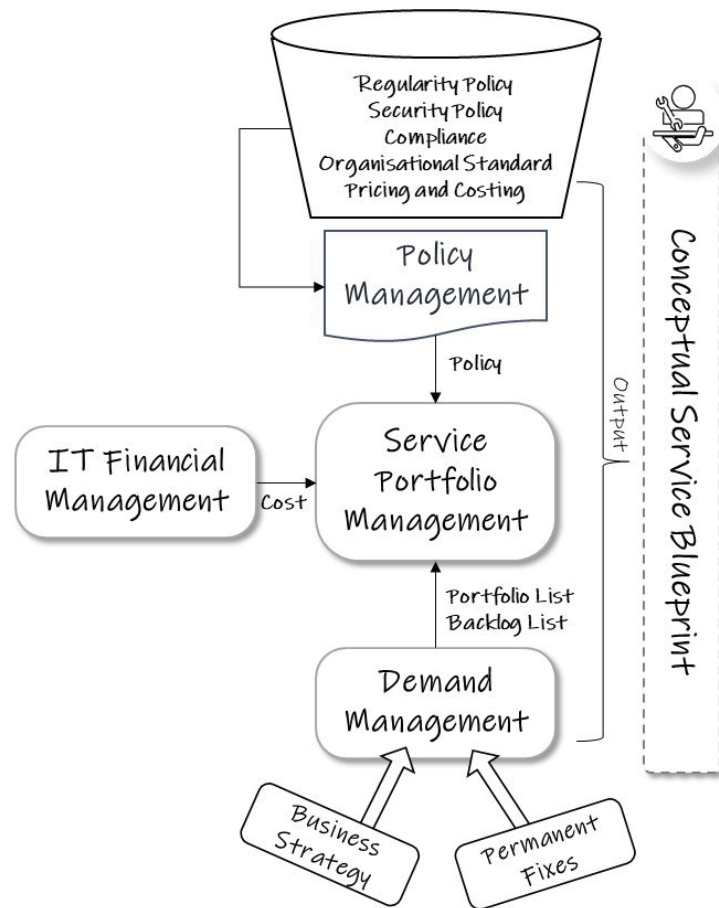- Ensure governance

Plan Value Stream Workflow

Figure 23 - Plan Value Stream Process Flow

Policy Management: Policy Management refers to the management of guidelines under which the organisation will operate its cloud services. They are usually implemented in order to ensure the integrity and privacy of company-owned information is preserved. Policy Management consist of the following components:
- Regulatory Policy

- Security Policy
- Compliance Policy
- Organisational Standard Policy
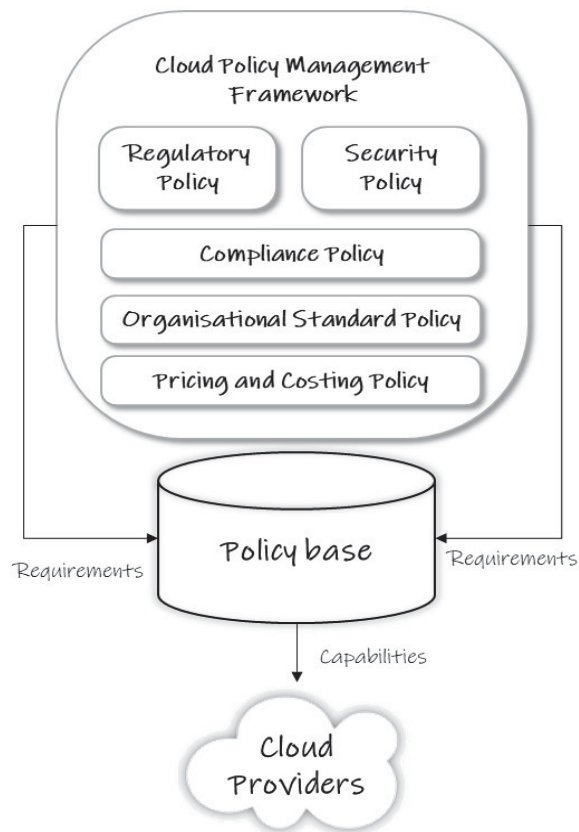- Pricing and Costing Policy

Figure 24 - Cloud Policy Management Framework

Policy Management triggers the Cloud Service Portfolio Management process. Developing and managing a portfolio of cloud services is the first step toward a discipline of Cloud Portfolio Management.

Cloud Service Portfolio Management (CPM): Cloud Portfolio Management (CPM) is the process designed to help companies capitalise on this growing array of cloud technologies.

One of the essential processes that cloud adoption requires is a formal framework for Cloud Portfolio Management. Cloud Portfolio Management provides a means by which an organisation can control and govern existing services, new services, and well as the cloud providers and the relationship with them.

CPM looks after the management of the portfolio of services in the pipeline, transition, production and retirement.

It gets inputs from IT Financial Management, IT Budgeting, and IT Cost Model, Benchmarking, and Pricing Model.
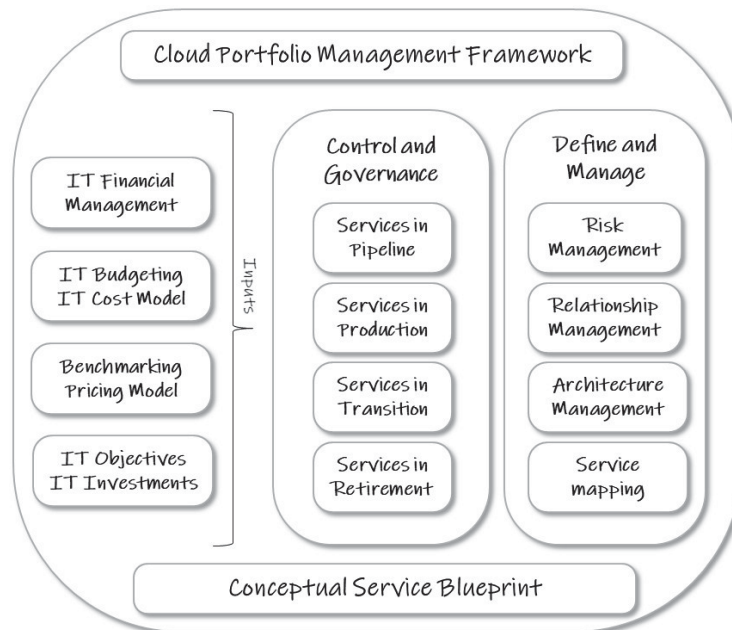

Figure 25 - Cloud Portfolio Management Framework

This also ensures the Conceptual Service Blueprint is created with high-level business process details & touchpoints as its output.