



IBM Global Services

ITIL Capacity Management Deep Dive

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Agenda

- ITIL Business Model
- ITIL Architecture
- ITIL Capacity Management Introduction
- ITIL Capacity Management Balancing Act
- ITIL Capacity Management Scope
- ITIL Capacity Management and the Business
- ITIL Capacity Management Process
- ITIL Business Capacity Management Sub-Process
- ITIL Capacity Management Activities
- ITIL Configuration Management Database (CMDB) and Capacity Database (CDB)
- ITIL Capacity Plan

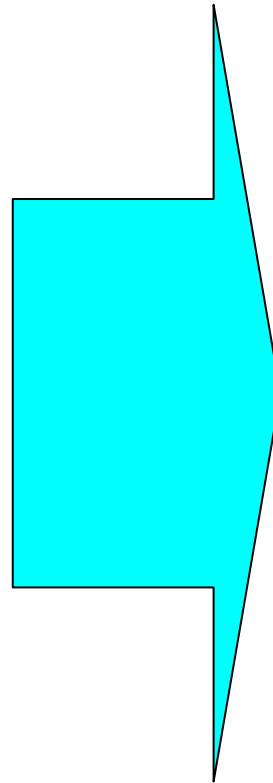
Industry/External Standards

Compliance/conformance with these frameworks is becoming part of the price of entry into many contracts/environments

Client Demands

Competitive Advantage

Operational Requirements



- ITIL
- eSCM
- CMMI
- ISO9001
- ISO20000
- CoBIT
- Basel II
- COPC
- FDA/HIPPA
- DoD
- SOX/GLB

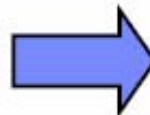
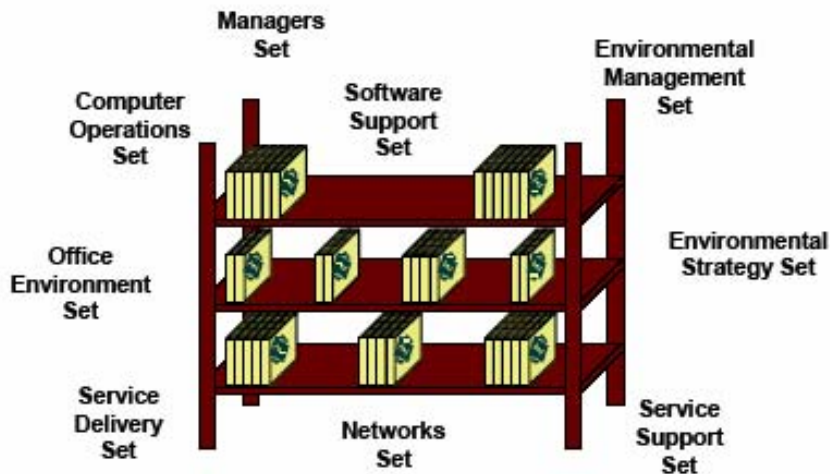
Can't pass audits against today's regulations without rigorous process adherence

ITIL Business Model

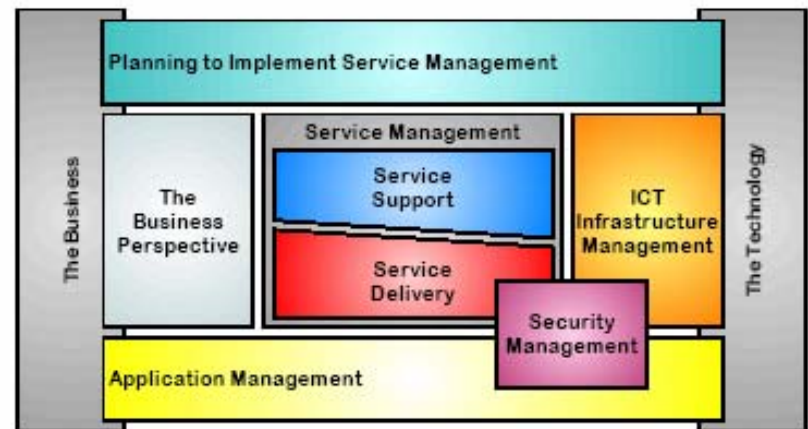
A comprehensive framework of best practices in IT management

- Provides a best practice framework which is adaptable to specific needs
- Filtered from public and private sector best practices - sorted by discipline
- Rich body of documentation available
- Publicly available, providing a common language
- Accreditation and certification programs available
- Covers implementation and planning guidelines
- Independent of architecture, technology, form of organization, vendor and industry
- Promoted by the *itSMF*
- Adopted as basis of BS15000, the UK Service Management standard

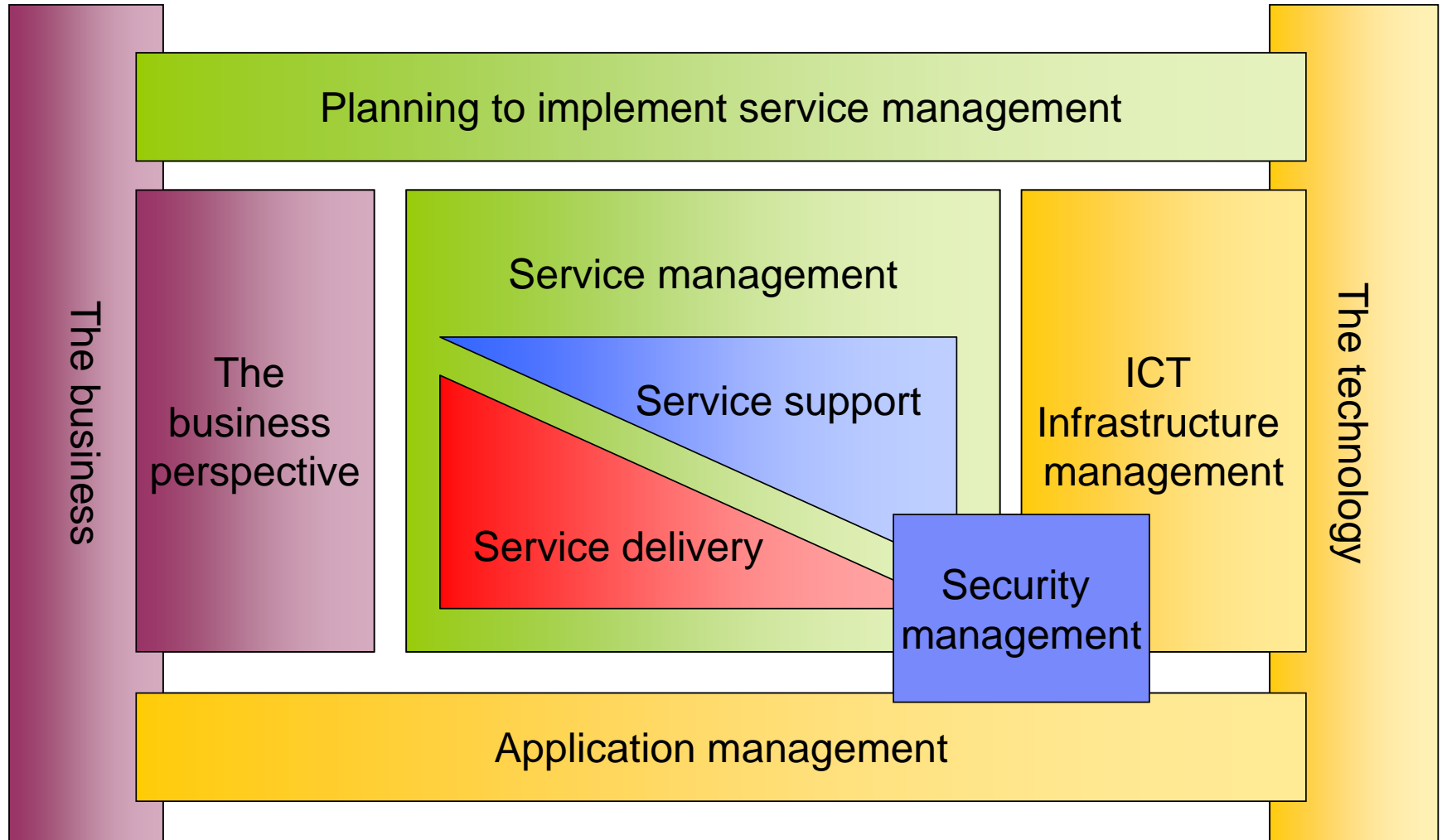
ITIL Version 1



ITIL Version 2



ITIL Architecture



ITIL Capacity Management Introduction

- Capacity Management is responsible for ensuring that the IT processing and storage capacity matches the evolving demands of the business in the most cost-effective and timely manner. The process encompasses:
 - The monitoring of performance and throughput of IT services and the supporting infrastructure components
 - Undertaking tuning activities to make the most efficient use of existing resources
 - Understanding the demands currently being made for IT resources and producing forecasts for future requirements
 - Influencing the demand for resource in conjunction with Financial Management
 - The production of a Capacity Plan which will enable the IT service provider to provide services of the quality defined in Service Level Agreements (SLAs)

ITIL Capacity Management Balancing Act

- **Cost against Capacity**
 - Cost justifiable in terms of business need (traditional capacity management)
 - Most efficient use of those resources (traditional performance management)
- **Supply against Demand**
 - Ensuring available supply matches demand, now and in the future
 - Manage or influence the demand for a particular resource

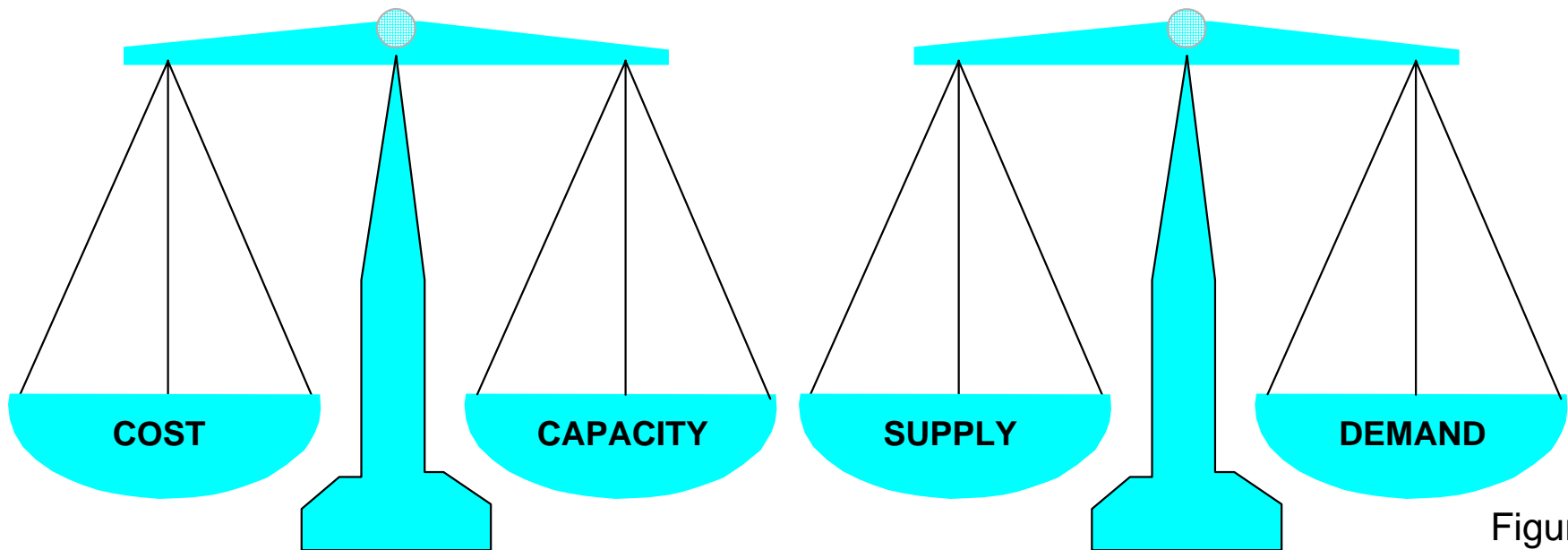


Figure 1

ITIL Capacity Management Scope

- All hardware – From PCs, through file servers, up to mainframes and super-computers
- All networking equipment – LANs, WANs, bridges, routers, etc.
- All peripherals – Storage devices, printers, etc.
- All software – Operating system and network software, in-house developments and purchased packages
- Human resources – Where a lack of human resources could result in a delay in end-to-end response time

Sample Configuration and CFIA Grid

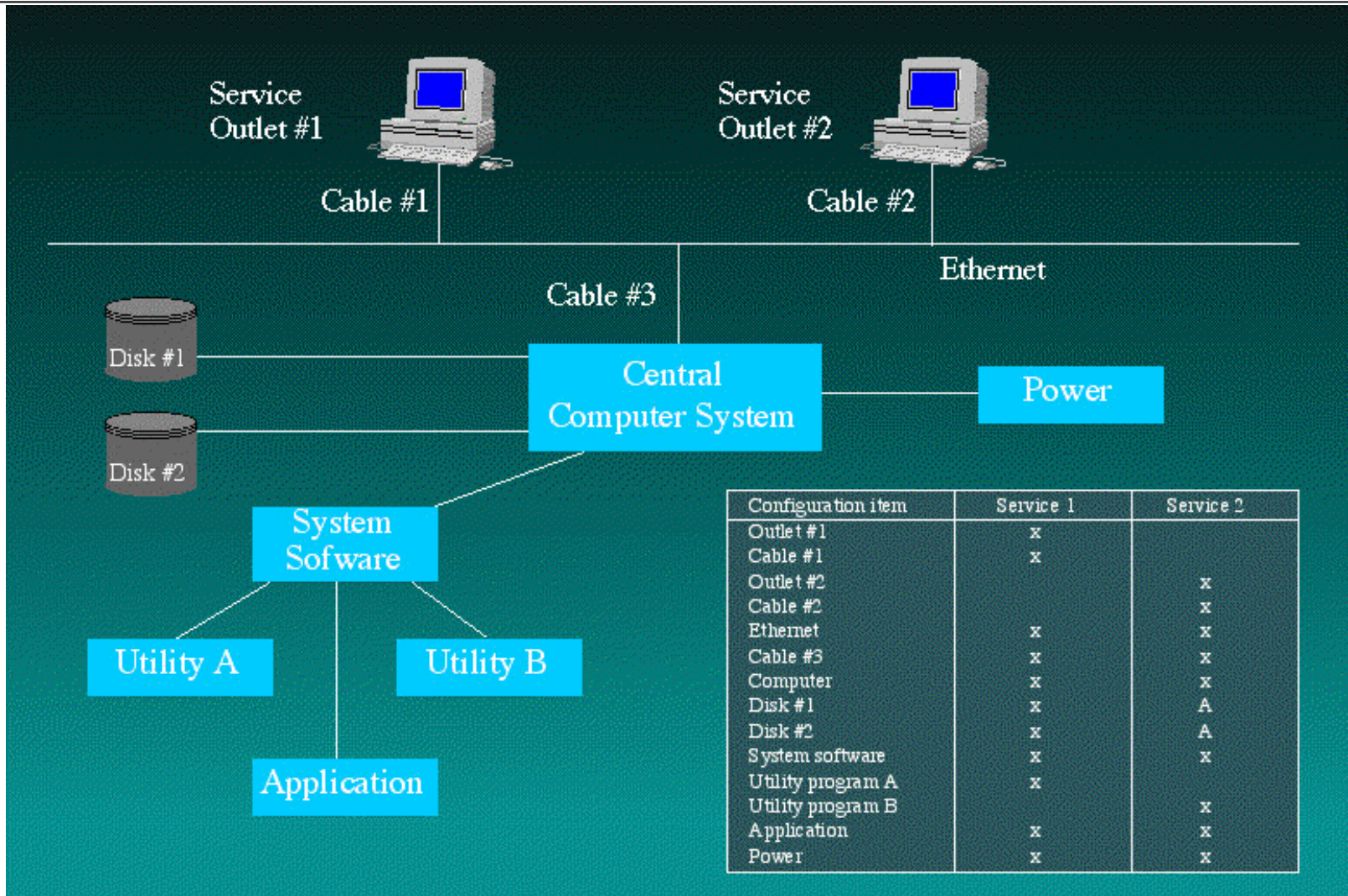


Figure 5

ITIL Capacity Management and the Business

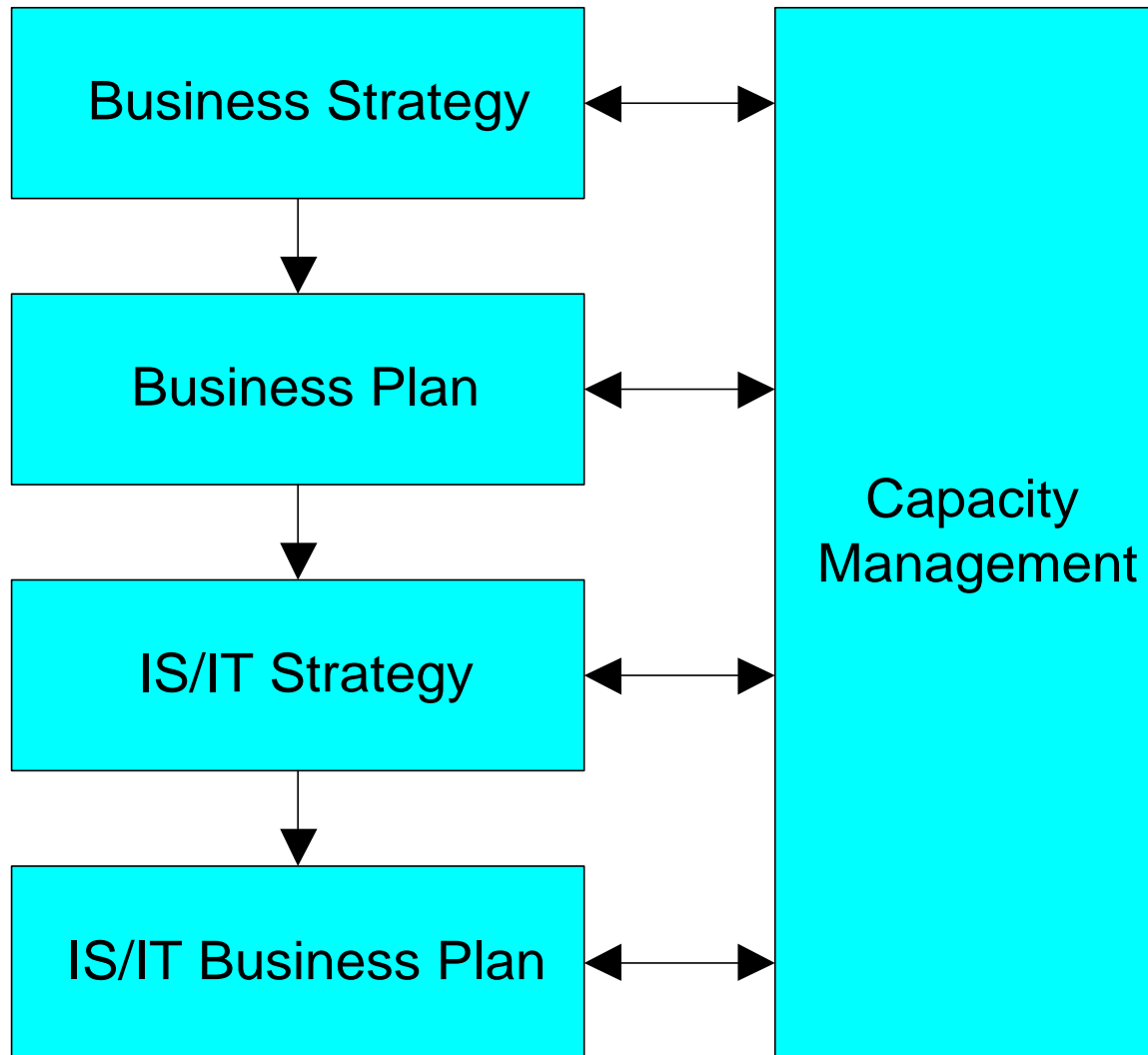


Figure 2

ITIL Capacity Management Process

The Capacity Management Process

Inputs

- *Technology*
- *SLAs, SLRs and Service Catalogue*
- *Business Plans and Strategy*
- *IS, IT Plans and Strategy*
- *Business requirements and volumes*
- *Operational schedules*
- *Deployment and Development plans and programmes*
- *Forward Schedule of Change*
- *Incidents & Problems*
- *Service reviews*
- *SLA breaches*
- *Financial Plans*
- *Budgets*

Sub-processes

Business Capacity Management:

- *trend, forecast, model, prototype, size and document future business requirements*

Service Capacity Management:

- *monitor, analyse, tune and report on service performance, establish baselines and profiles of use of services, manage demand for services*

Resource Capacity Management:

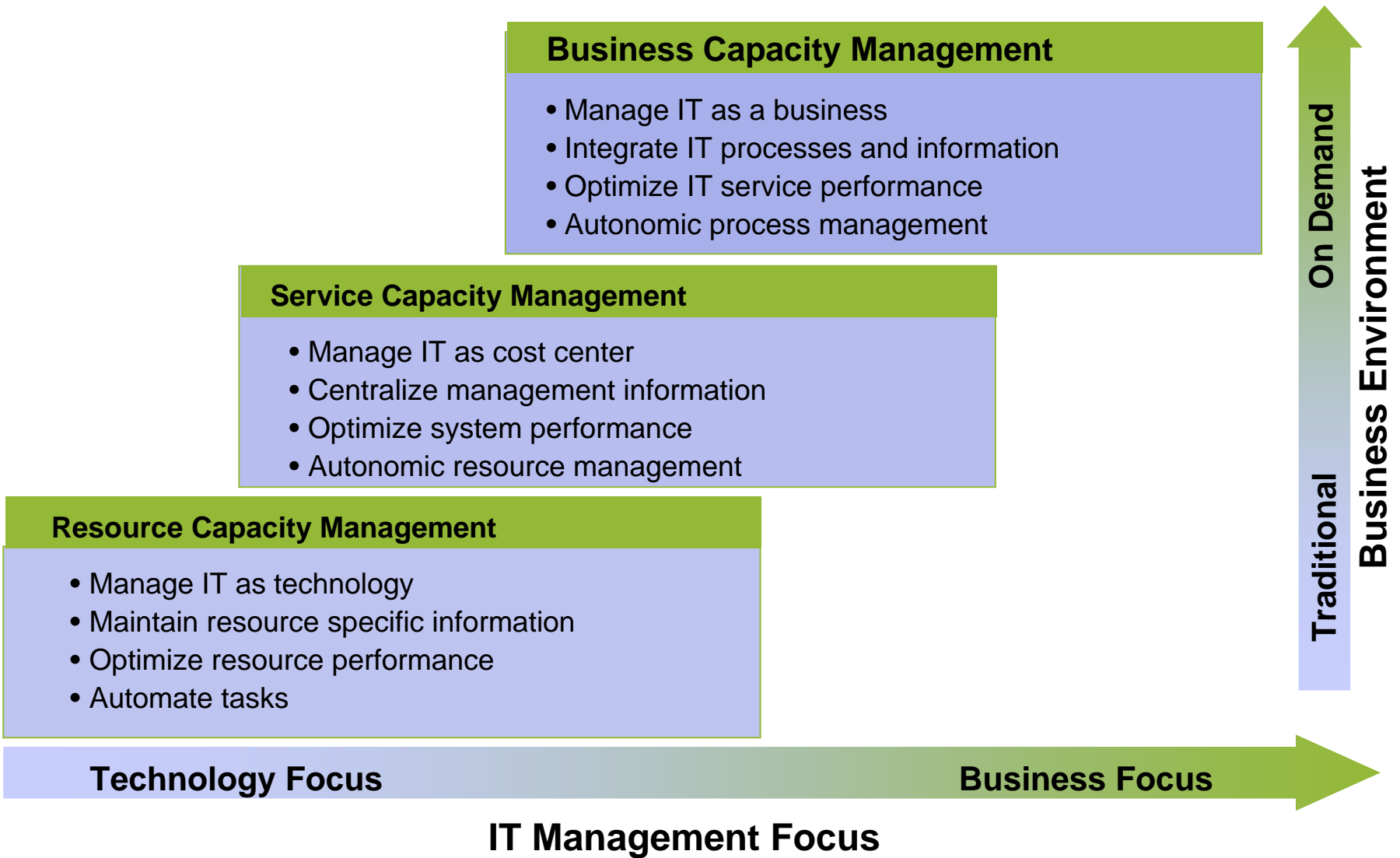
- *monitor, analyse, run and report on the utilisation of components, establish baselines and profiles of use of components*

Outputs

- *Capacity Plan*
- *Capacity Database*
- *Baselines and profiles*
- *Thresholds and alarms*
- *Capacity reports (regular, ad hoc and exception)*
- *SLA and SLR recommendations*
- *Costing and charging recommendations*
- *Proactive changes and service improvements*
- *Revised operational schedule*
- *Effectiveness reviews*
- *Audit reports*

Figure 3

Sub-process Perspective



ITIL Business Capacity Management Sub-Process

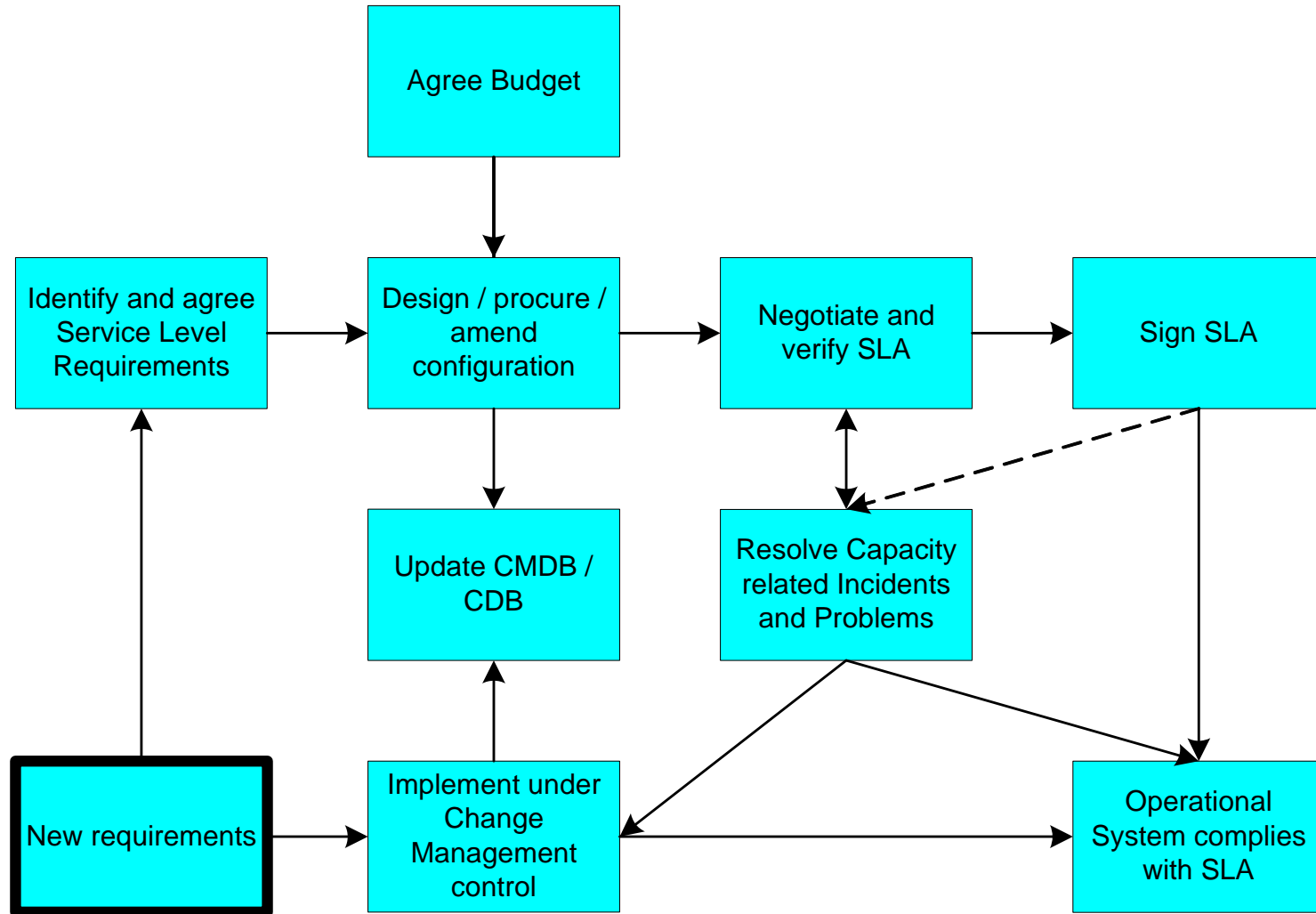


Figure 4

ITIL Capacity Management Activities

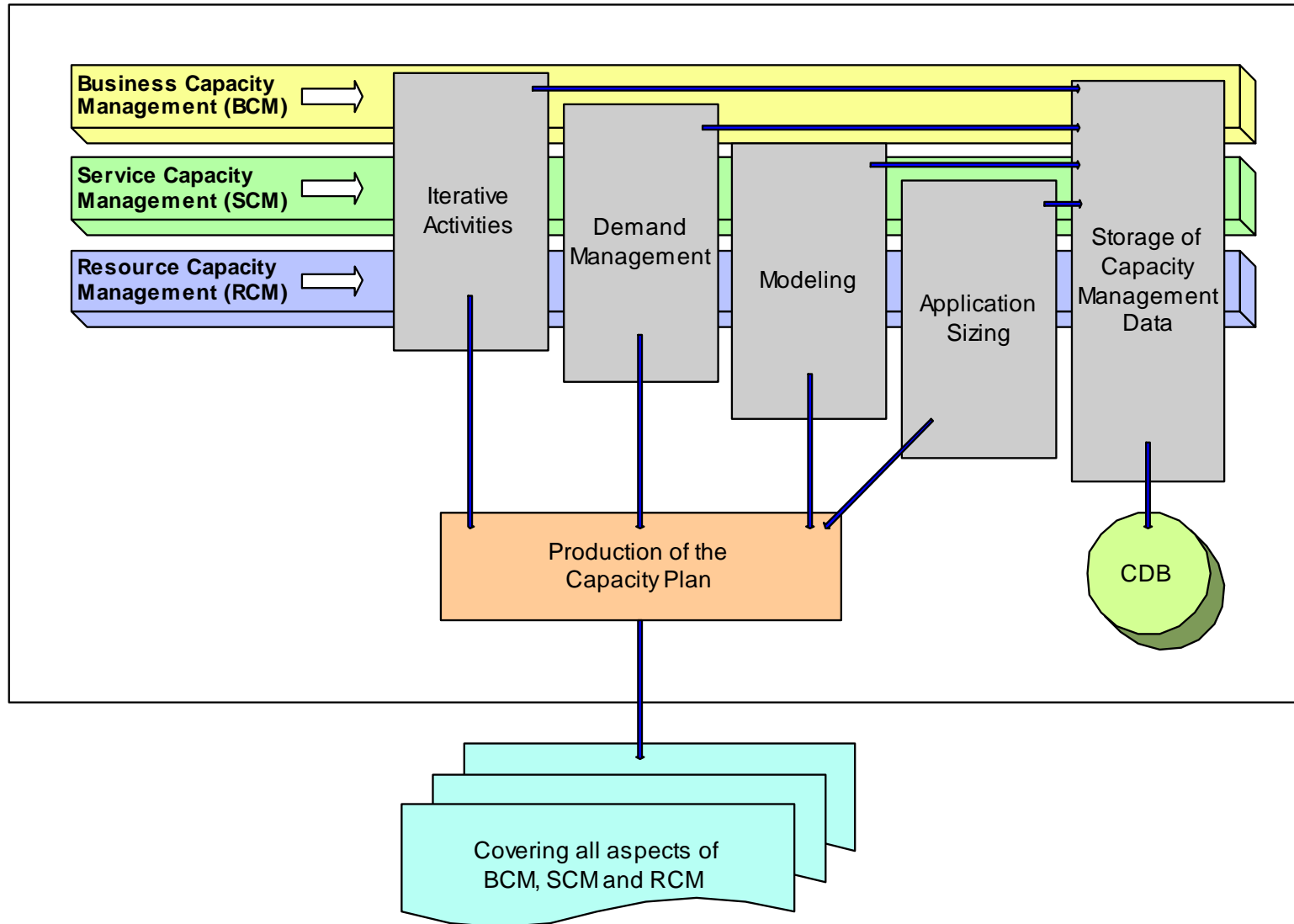


Figure 7

ITIL Capacity Management Iterative Activities

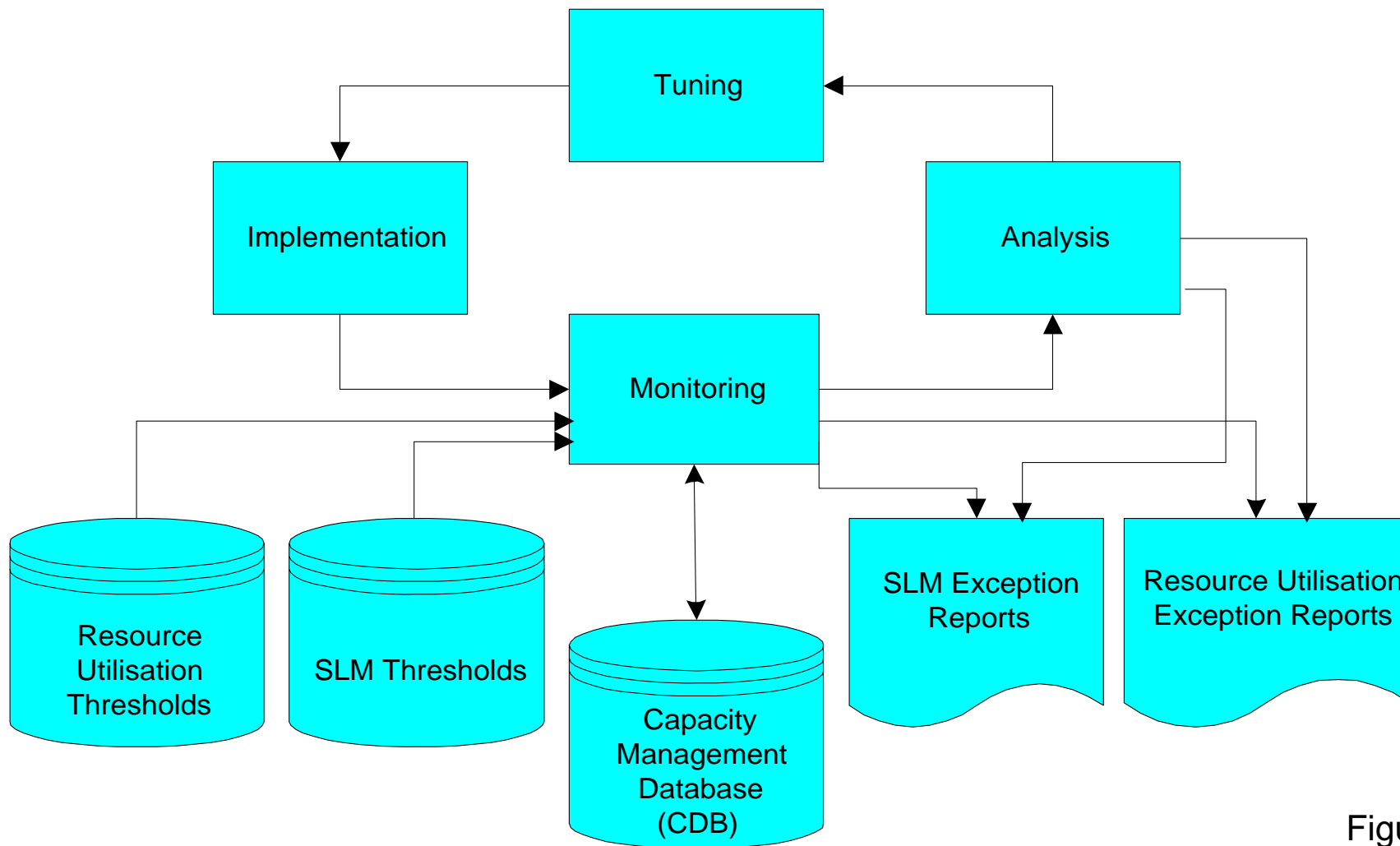
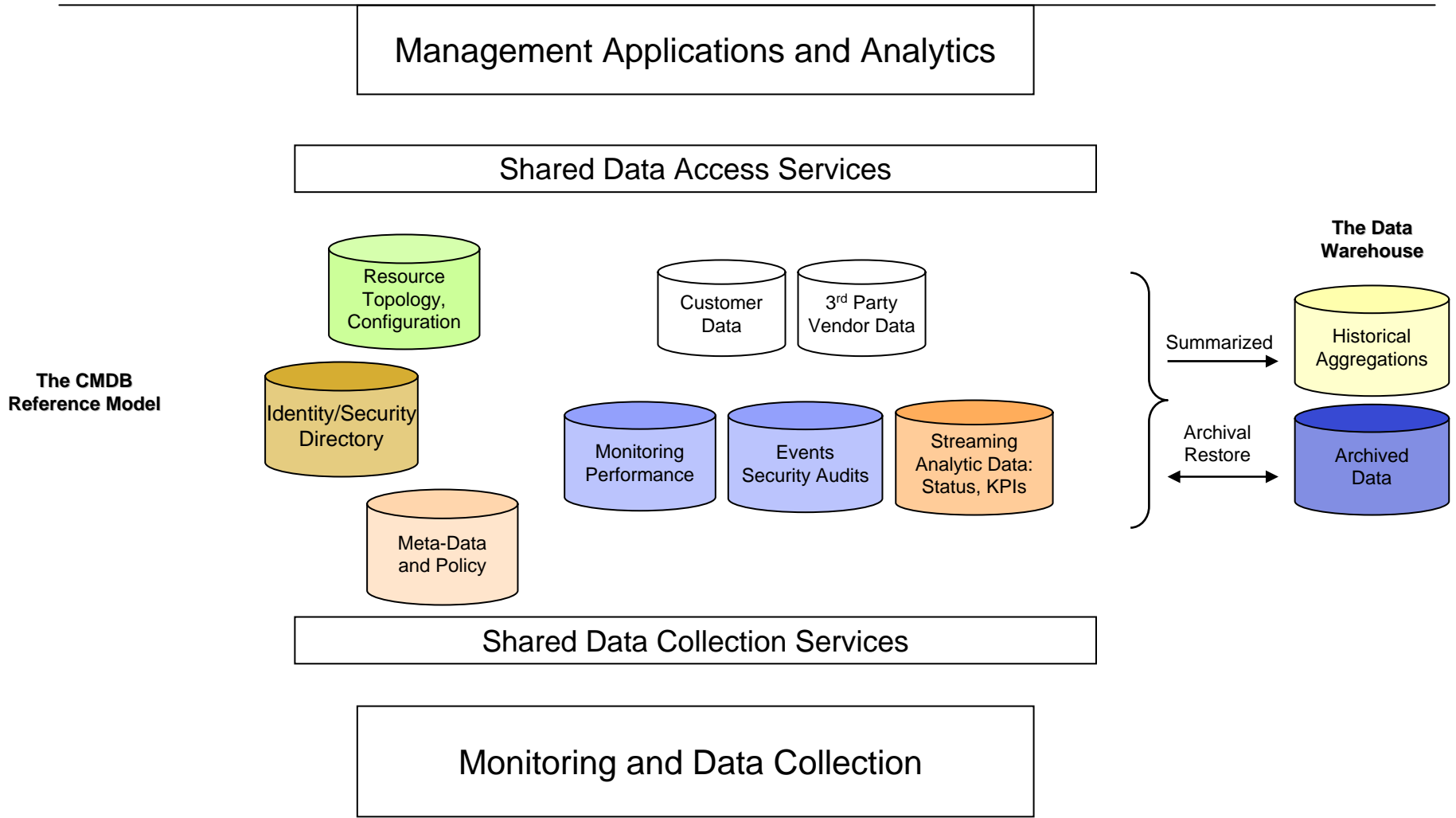


Figure 6

ITIL CMDB – Data Layer Practical View



ITIL Capacity Data Base (CDB)

- Business Data
 - Number of branches, seasonal variations of anticipated workloads
- Service Data
 - Service Level Management (SLAs and SLRs)
- Technical Data
 - Technical limits and constraints (e.g. disk capacity of 15 Gb)
- Financial Data
 - Financial plans, budgets, equipment costs, license costs
- Utilization Data
 - Different metrics technology dependent

Example Utilization Data for CDB

Technology	Example metrics available for collection		
Mainframe	CPU utilization	Paging rates	I/Os per second
Application	No of transactions	Response times	
UNIX server	CU utilization	Memory utilization	No of processes
Middleware	Average queue lengths	No of transactions serviced	
Network	Bandwidth utilization	No of connections	Error rates
Database	Shared memory utilization	No of queries per second	
PC Client	CPU utilization	Memory utilization	

Table 1

ITIL Capacity Plan – Table of Contents

- Introduction
 - Scope of the plan
 - Methods used
- Management Summary
- Business Scenarios
- Service Summary
 - Current and recent service provision
 - Service forecasts
- Resource Summary
 - Current and recent resource usage
 - Resource forecasts
- Options for Service Improvement
- Cost Model
- Recommendations



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Questions?

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