IT Service Management Toolkit
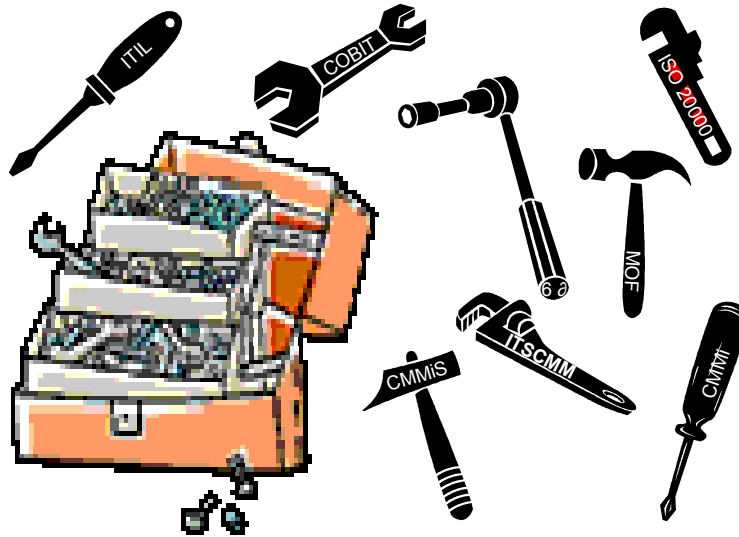
The Tools

Why IT Service Management?

- **Better align IT with business requirements**

- **Improved IT governance**

- **Reduce cost of IT service provision**

- **Because everyone else is**

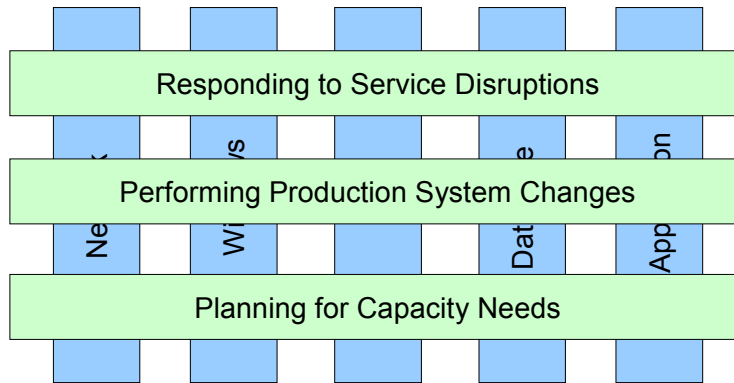## The Tools

IT Service Management – One Difficulty

Responding to Service Disruptions

Performing Production System Changes

Planning for Capacity Needs

The Tools

ITIL   **Information Technology Infrastructure Library**

CoʙiT   **Control Objectives for Information Technology**

MOF   **Microsoft Operations Framework**

ISO 20000   **International Standards Organization 20000**

CMMi   **Capability Maturity Model Integration**

ITSCMM   **Information Technology Service CMM**

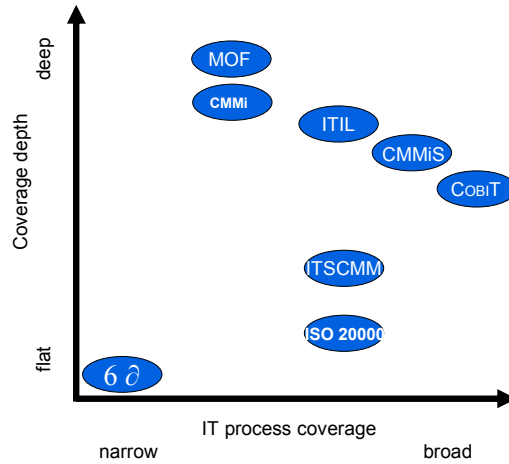**6 ∂**   **Six Sigma**

CMMi for Services   **CMMi for Services**

The Tools

Guidance Classification

Coverage depth

deep

MOF

CMMi

ITIL

CMMiS

CobiT

ITSCMM

ISO 20000

flat

6 ∂

IT process coverage

narrow   broad

The Tools

ITIL – IT Infrastructure Library

Service Support

Service Delivery

Security Management

Introduction to ITIL
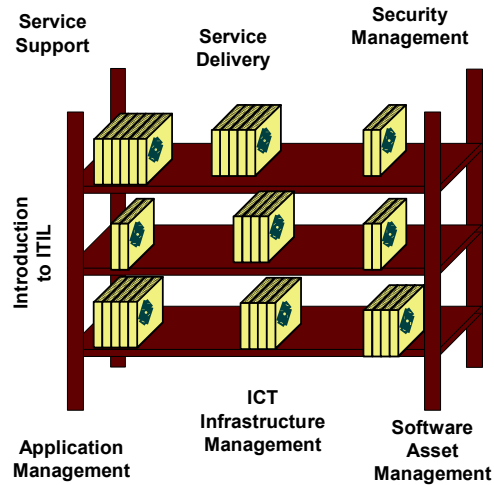
Business Perspective Vol 1 (2)

Planning to Implement ITIL

ICT Infrastructure Management

Application Management

Software Asset Management

The Tools

ITIL – Service Support Book

Service Desk

Incident Management

Problem Management

Change Management

Release Management

Configuration Management

The Tools

ITIL – Service Delivery Book

Service Level Management

Availability Management

Capacity Management

IT Service Continuity Management

The Tools

ITIL – IT Infrastructure Library

Security Management
Managing a defined level of security for information and IT Services

Software Asset Management
This book describes best practices for managing software and software licensing

Application Management
This book covers the life cycle of software development from initial requirement, enhancement, defect through development, testing, release (via Release Management) support and archival.

ICT Infrastructure Management
This book details best practices for managing the IT infrastructure.

All of these books overlap with more than one of the ITIL Service Support or Service Delivery processes.

The Tools

CoʙɪT – Control Objectives for IT

Executive Summary

Implementation Tool Set

Framework:
High Level Control Objectives

Management Guidelines

Detailed Control Objectives

Audit Guidelines

The Tools

COBIT – Control Objectives for IT

Business

Requirements ↓   ↑ Information

IT
Processes

is controlled by → Control
Objectives

measured by

made effective and efficient with

is audited by

translated into

implemented with

for performance   *for outcome*   *for maturity*

Activity
Goals

Audit
Guidelines

Control
Practices

Key
Performance
Indicators

Key
Goal
Indicators

Maturity
Models
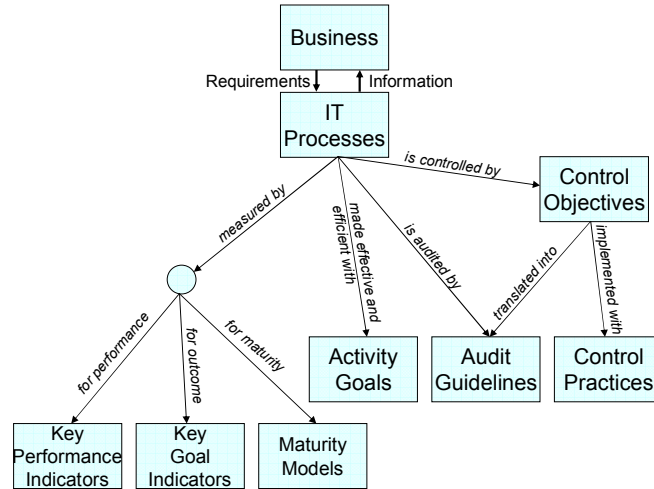
The Tools

COBIT – Developed with a Top Down Approach

Domains

4   Plan and Organize (PO)
     Acquire and Implement (AI)
     Deliver and Support (DS)
     Monitor and Evaluate (M)

Processes

34

Activities

318
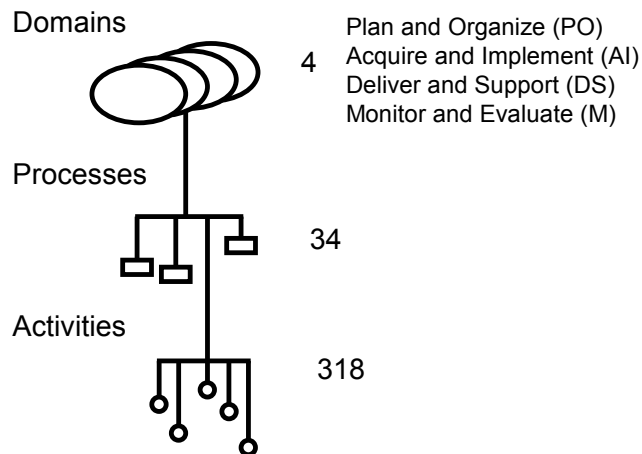
The Tools

COBIT – Process Domains

Plan and Organize (PO)
This domain covers strategy and tactics, and concerns the identification of the way that IT can best contribute to the achievement of the business objectoves.

Acquire and Implement (AI)
This domain covers the identification, development, acquisition, implementation, integration and maintenance of IT solutions

Delivery and Support (DS)
This domain covers the actual delivery of required services including service delivery, management of security and continuity, service support for users, and the management of data and operational facilities.

Monitor and Evaluate (ME)
This domain covers performance management and monitoring of internal control, regulatory compliance and governance.

The Tools

COBIT – Deliver and Support (DS) Domain

DS1 – Define and Manage Service Levels
DS2 – Manage Third Party Services
DS3 – Manage Performance and Capacity
DS4 – Ensure Continuous Service
DS5 – Ensure Systems Security
DS6 – Identify and Allocate Costs
DS7 – Educate and Train Users
DS8 – Manage Service Desk and Incidents
DS9 – Manage the Configuration
DS10 – Manage Problems
DS11 – Manage Data
DS12 – Manage the Physical Environment
DS13 – Manage Operations

The Tools

MOF – Microsoft Operations Framework

Publication	Description
MOF Executive Overview	Business value of MOF, why organizations should adopt MOF, road map to adoption.
MOF Process Model for Operations	High-level discussion of the MOF Process Model, how it relates to the other models and disciplines, and implementation scenarios.
MOF Team Model for Operations	High-level discussion of the MOF Team Model, how it relates to the other models and disciplines, and implementation scenarios.
MOF Risk Management Discipline for Operations	Detailed discussion of the MOF Risk Management Discipline and its importance to an IT organization.
MOF service management function (SMF) guides	Detailed discussion of each service management function (SMF) as described in the *MOF Process Model for Operations* paper. Also discusses in detail the relationship between the SMFs, the other MOF models, and the Information Technology Infrastructure Library (ITIL) disciplines.
Operations management review (OMR) guides	Detailed discussion about the four operational management reviews, what they consist of, and how they are conducted.

The Tools

MOF – Microsoft Operations Framework

MOF principles and guidance are also organized around three core models, which are each manifested within the individual service management functions (SMFs). These three models:

- MOF Team Model
- MOF Process Model
- MOF Risk Model

The Tools

MOF – Team Model

Team	Quality Goal
Release	Release and change management
Infrastructure	Management of physical environments and infrastructure tools
Support	Quality customer support and a service culture
Operations	Predictable, repeatable, and automated system management
Partner	Mutually beneficial relationships with service and supply partners
Security	Protected corporate assets, controlled access, and proactive security planning

For each team role cluster, the MOF team model defines:
- activities and processes
- typical ways in which these role clusters and responsibilities are identified in a production environment
- common requirements for specialists within the role

The Tools

MOF – Process Model

Service Management Functions
Operations Management Reviews
MOF Team Role Clusters

The Tools

MOF – Process Model

Changing Quadrant

Service Management Functions
- Change Management
- Configuration Management
- Release Management

Operations Management Reviews
- Change Initiation Review
- Release Readiness Review

MOF Team Role Clusters
- Release Role Cluster

The Tools

MOF – Risk Model

- Provides a framework for organizations to identify, categorize, and manage risks proactively and continuously

- Formalized, in order to ensure that team members are continually alert to the potential for risks that might result from IT activities
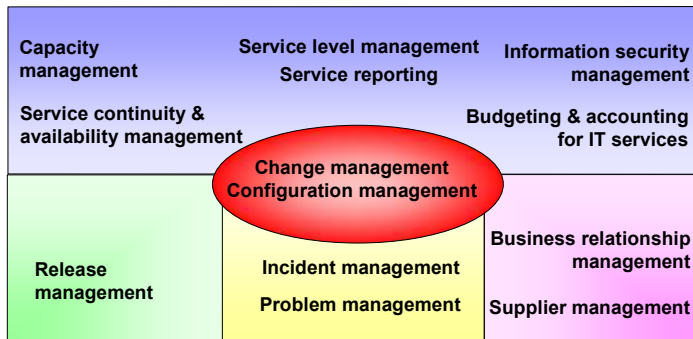
The Tools

ISO 20000

Organizational certification denoting IT service management quality. Must be audited by a certified third party organization. The certificate is good for 3 years. All processes must pass the audit.

Based on:
- **ISO 9000**
- **BS 15000**

Capacity management

Service level management
Service reporting

Information security management

Service continuity & availability management

Budgeting & accounting for IT services

Change management
Configuration management

Release management

Incident management
Problem management

Business relationship management

Supplier management

The Tools

CMMi

Capability Maturity Model Integration (CMMi) is a process improvement approach that provides organizations with the essential elements of effective processes

- Used to guide process improvement across a project, a division, or an entire organization

- Integrates traditionally separate organizational functions

- Sets process improvement goals and priorities

- Provides guidance for quality processes

- Provides a point of reference for appraising current processes

The Tools

CMMi - Products

Models cover four disciplines.

- Systems Engineering (SE)

- Software Engineering (SW)

- Integrated Product and Process Development (IPPD)

- Supplier Sourcing (SS)

Also included are appraisal methods (SCAMPI) and training.

The Tools

CMMi – Capability Levels

1 – **Performed**
Process unpredictable, poorly controlled and reactive

2 – **Managed**
Process characterized for projects and is often reactive

3 – **Defined**
Process characterized for the organization and is proactive

4 – **Quantitatively Managed**
Process measured and controlled

5 – **Optimizing**
Focus on continuous process improvement
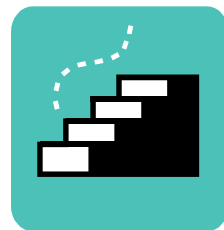
The Tools

CMMi – Processes

Processes are associated with capability levels:

2 – Managed
    Requirement Management
    Project Planning
    Project Monitoring and Control
    Supplier Agreement Monitoring
    Measurement and Analysis
    Process and Product Quality Assurance
    Configuration Management

The goal is to progress to the desired capability level.

The Tools

IT Service CMM

The IT Service Capability Maturity Model, CMM, is a methodology for determining where an organization is with its adoption of service management processes and suggests areas for improvement.

The ITSCMM suggests what processes a mature IT service organizations should have in place.

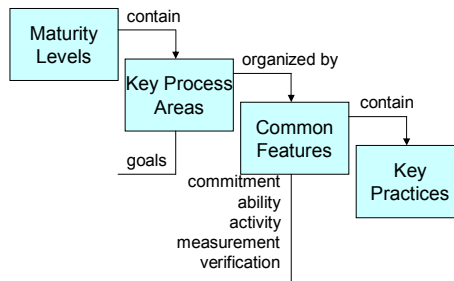**The ITSCMM is used to improve the quality of services.**

The Tools

IT Service CMM

The Service Capability Maturity Model, CMM, is a methodology for determining where an organization is with its adoption of service management processes and suggests areas for improvement.

Maturity Levels —contain→ Key Process Areas —organized by→ Common Features —contain→ Key Practices

Key Process Areas —goals

Common Features:
commitment
ability
activity
measurement
verification

The Tools

Six Sigma

Six Sigma is a statistically-based quality improvement methodology that can be applied to processes (IT service management).

Six Sigma is customer based. The customer drives what to improve – the "right" projects are chosen.

The goal is to achieve a variance from standard of 6 ∂ which is 3.4 defects per million opportunities (chances for defects):

∂	Defects/Million
2	308,537
3	66,807
4	6,210
5	233
6	3.4

At 3 ∂ there will be > 65,000 lost bags/million passengers. At 6 ∂ there will be < 4.

The Tools

Six Sigma – Core Concepts (DMAIC)

Define: What are the customer's expectations of the process?

Measure: What is the rate of occurrence of defects?

Analyze: Why, when and where do the defects occur?

Improve: How can the process be fixed?

Control: How can the process continue to stay fixed (or improve)?

Define

Control

Measure

Improve

Analyze
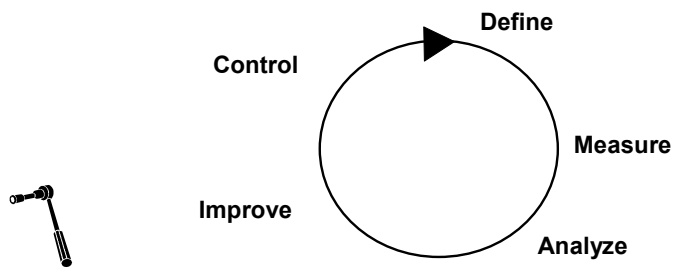
The Tools

CMMi for Services

- **The purpose CMMI for Services is to extend the CMMi framework to cover the provision of services (IT and other services).**

- **Based on CMMi**

- **Meant to enhance existing IT service models (ITIL, COBIT)**

- **Planned for public release mid 2007.**

The Tools

CMMi for Services – 4 Process Areas

Process Management   In CMMI
- Organizational Innovation and Deployment (OID)   √
- Organizational Process Definition (OPD)   √
- Organizational Process Focus (OPF)   √
- Organizational Process Performance (OPP)   √
- *Organizational Service Management (OSM)*
- Organizational Training (OT)   √

Project Management
- Capacity and Availability Management (CAM)
- Integrated Project Management (IPM)   √
- Project Monitoring and Control (PMC)   √
- Project Planning (PP)   √
- Requirements Management (REQM)   √
- Risk Management (RSKM)   √
- Quantitative Project Management (QPM)   √
- *Service Continuity (SCON)*
- Supplier Agreement Management (SAM)   √

Italicized processes are optional

The Tools

CMMi for Services – 4 Process Areas

Service Establishment and Delivery   In CMMI
- Incident and Request Management (IRM)
- Service Delivery (SD)
- *Service System Development (SSD)*
- Service Transition (ST)

Support
- Causal Analysis and Resolution (CAR)   √
- Configuration Management (CM)   √
- Decision Analysis and Resolution (DAR)   √
- Measurement and Analysis (MA)   √
- Problem Management (PRM)
- Process and Product Quality Assurance (PPQA)   √

Each Process is required at a certain maturity level
Each Process has a specific purpose
Each Process has specific goals and practices as well as generic goals and
   processes
Specific practices support specific goals
Specific practices have typical work products and subpractices

Italicized processes are optional

The Tools

CMMi for Services – Maturity Levels

Maturity Level 2
- Project Monitoring and Control (PMC)   2/10
- Project Planning (PP)   3/14
- Requirements Management (REQM)
- Supplier Agreement Management (SAM)
- Incident and Request Management (IRM)
- Configuration Management (CM)
- Measurement and Analysis (MA)
- Process and Product Quality Assurance (PPQA)

Maturity Level 3
- Organizational Process Definition (OPD)
- Organizational Process Focus (OPF)
- Organizational Service Management (OSM)
- Organizational Training (OT)
- Capacity and Availability Management (CAM)
- Integrated Project Management (IPM)
- Risk Management (RSKM)
- Service Delivery (SD)
- Service System Development (SSD)
- Service Transition (ST)
- Decision Analysis and Resolution (DAR)
- Problem Management (PRM)

The Tools

CMMi for Services – Maturity Levels

Maturity Level 4
- Organizational Process Performance (OPP)
- Quantitative Project Management (QPM)

Maturity Level 5
- Organizational Innovation and Deployment (OID)
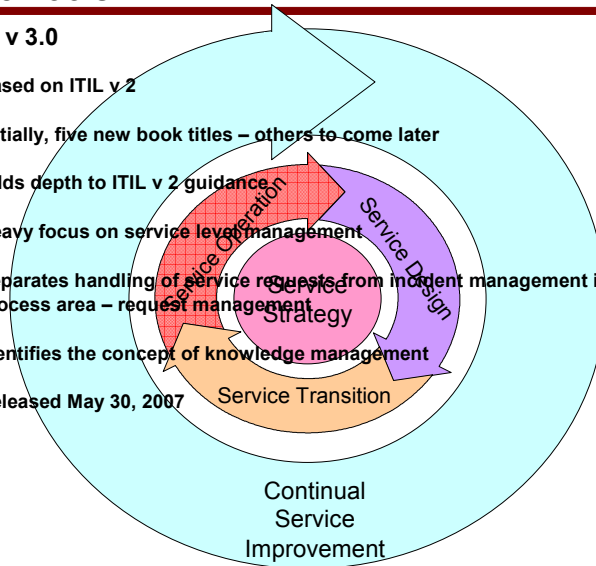- Causal Analysis and Resolution (CAR)
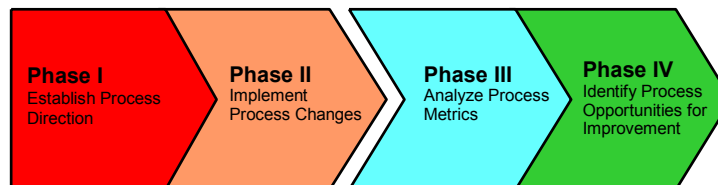
The Tools

ITIL v 3.0

- **Based on ITIL v 2**

- **Initially, five new book titles – others to come later**

- **Adds depth to ITIL v 2 guidance**

- **Heavy focus on service level management**

- **Separates handling of service requests from incident management into a new process area – request management**

- **Identifies the concept of knowledge management**

- **Released May 30, 2007**

Service Operation

Service Design

Service Strategy

Service Transition

Continual Service Improvement

The Tools

IT Service Management Step-by-Step (Greg's Method)

Phase I
Establish Process Direction

Phase II
Implement Process Changes

Phase III
Analyze Process Metrics

Phase IV
Identify Process Opportunities for Improvement

Steps
Activities

Deliverables

18

The Instructions

1. Become familiar with your tools and their use

2. Identify ISO 20000 achievement as a goal?

3. Determine and build a standardized service management process improvement methodology, using Six Sigma and/or some other methodology

4. Use COBIT to provide high level process governance and metrics

5. Use MOF and ITIL to provide process "best practices" guidance

6. Use ITSCMM or sCMM (CMMi) in order to measure process maturity

7. Continuously improve the processes using the methodology in step 3

8. Monitor changes in the tools available (CMMi for Services and ITIL v 3)

The Resources

ITIL –   www.itsmf.com

COBIT –   www.isaca.org

MOF –   www.microsoft.com/mof

ISO 20000 -   www.iso.org

CMM/CMMi -   http://www.sei.cmu.edu/cmmi/

CMMi for
Services -   http://www.sei.cmu.edu/news-at-sei/whats-new/20060320cmmi.htm

ITSCMM -   http://www.itservicecmm.org/

Six Sigma -   http://www.asq.org/sixsigma/

Notes

Notes