Configuration Management Best Practice Handbook

Building, Running and Managing a Configuration Management Data Base, CMDB - Ready to use supporting documents bringing ITIL Theory into Practice

The Art of Service

Configuration Management Best Practice Handbook:

Building, Running and Managing a Configuration Management Data Base (CMDB) - Ready to use supporting documents bringing ITIL Theory into Practice

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INTRODUCTION ROADMAP

Many organizations are looking to implement Configuration Management as a way to improve the structure and quality of the business.

This document describes the contents of the Configuration Management Workbook. The information found within the book is based on the ITIL Version 2 framework, specifically the Configuration Management process within Service Support.

The guide is designed to answer a lot of the questions about Configuration Management and provide you with useful guides, templates and essential, but simple assessments.

The supporting documents and assessments will help you identify the areas within your organization that require the most activity in terms of change and improvement.

Presentations can be used to educate or be used as the basis for management presentations or when making business cases for Configuration Management implementation.

The additional information will enable you to improve your organizations methodology knowledge base.

The guide serves to act as a starting point. It will give you a clear path to travel. It is designed to be a valuable source of information and activities.
The Configuration Management Guide:

- Flows logically,
- Is scalable,
- Provides presentations, templates and documents,
- Saves you time.

Step 1

Start by reviewing the PowerPoint presentation.

Configuration Management ITIL V2– This presentation provides a detailed and comprehensive overview of Configuration Management in the specialist areas of ITIL Version 2 and in particular, within the Configuration Management process is part of the Service Support phase.

These presentations will give you a good knowledge and understanding of all the terms, activities and concepts required within Configuration Management. They can also be used as the basis for management presentations or when making a formal business case for Configuration Management implementation. Make sure you pay close attention to the notes, as well as the slides, as references to further documents and resources are highlighted here.

Step 2

If you did not look at the supporting documents and resources when prompted during the PowerPoint presentations, do this now.

Below is an itemized list of the supporting documents and resources for easy reference. You can use these documents and resources within your own organization or as a template to help you in prepare your own bespoke documentation.

Configuration Management ITIL V2:

- Policies Objectives & Scope
- Objectives and Goals
- Configuration Process Manager
- Business & IT Service Mapping
- Identification Guidelines
- Status Accounting Guidelines
- Verification & Audit Plan
- CMBD Design Document
- Communication Plan
- Business Justification Document
- Reports KPI’s and Metrics
- The Complete ITIL Configuration Management Kit

Step 3

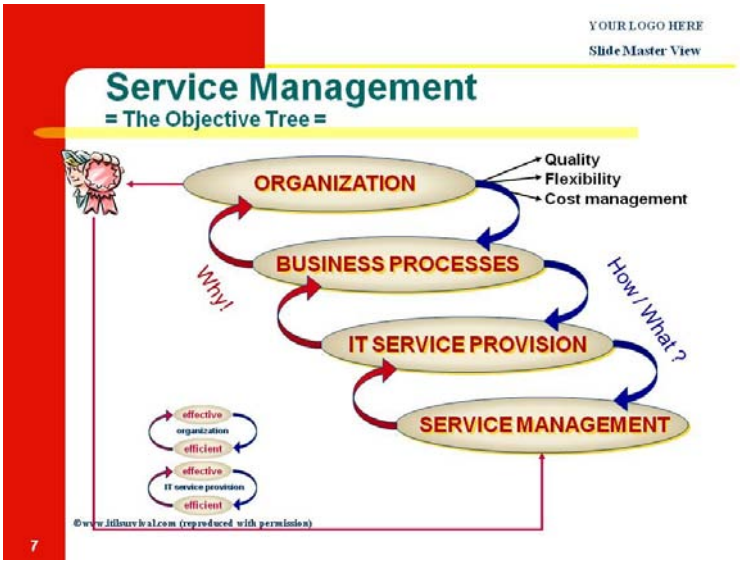
Alternatively, continue by working through the **Implementation Plan** with the focus on your organization. This will help you ascertain the Con figuration Management maturity for your organization. You will able to identify gaps and areas of attention and/or improvement.

The supporting documents and resources found within the book will help you fill these gaps by giving you a focused, practical and user-friendly approach to Configuration Management.

CONFIGURATION MANAGEMENT

Configuration Management covers the identification, recording and reporting of IT components, including their versions, constituent components and relationships.

These bullet points help to illustrate why it is that we need to introduce the disciplines of effective and efficient Process management into our IT environments.



ITSM is not something on its own, but closely linked to the business.
Explain difference between ‘effective’ (doing the right thing) and ‘efficient’ (doing the right thing the right way).

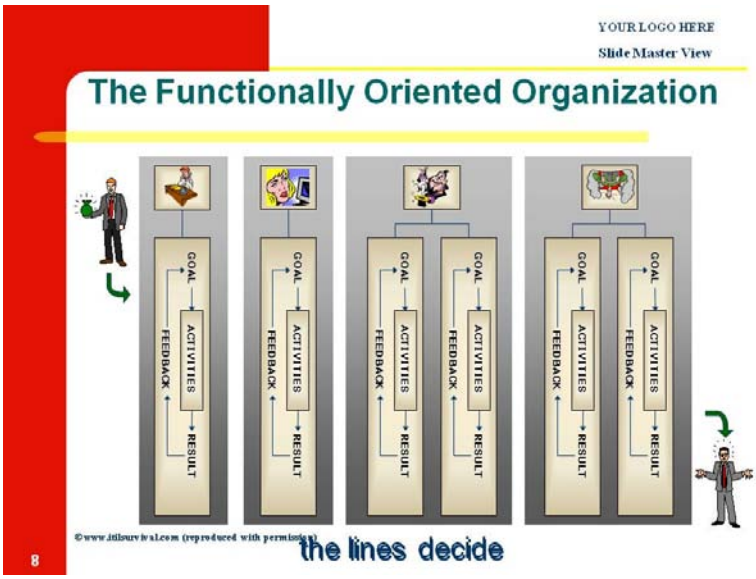
The objective tree is a useful way to help explain the importance of IT being a supporting department to the business.

To meet **organizational objectives**, the organization has **business processes** in place.
Examples of business processes are sales, admin and financial (who have a “sales process”) or logistics, customer service and freight (who have a “customer returns process”.)

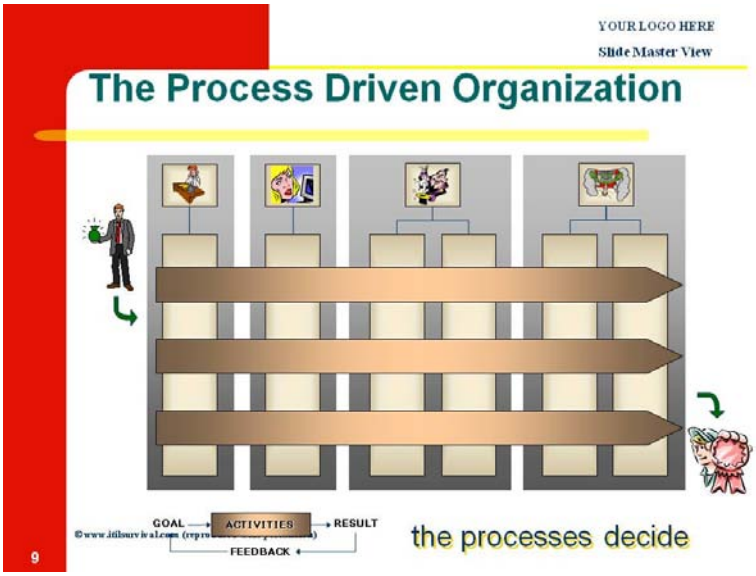
Each of the units involved in these business processes needs **IT Services** (e.g. CRM application, e-mail, word processing, financial tools).

Each of these services runs on IT infrastructure that has to be properly managed (**Service Management**). IT Infrastructure includes hardware, software, procedures, policies, documentation, etc.

ITIL provides a framework for the management of IT Infrastructure.



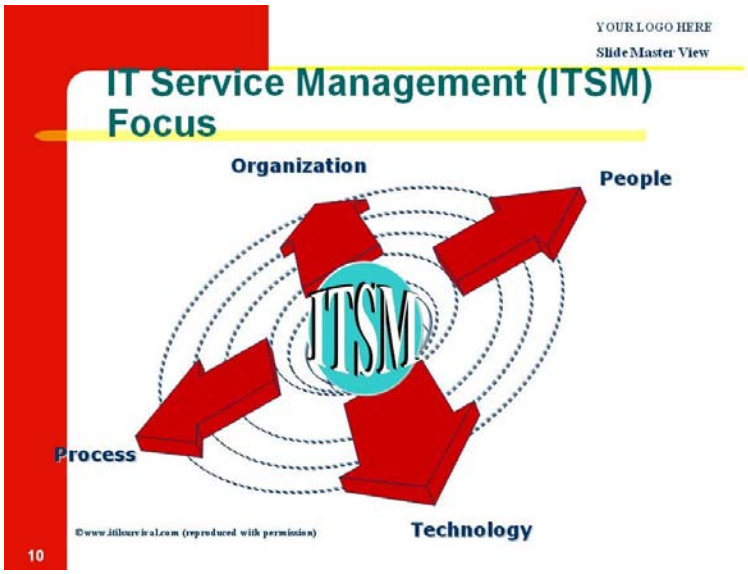
Traditionally we look at the IT department as a collection of specialists with specialist skills. This is a functional way to look at IT and it puts people into departmental silos.



Best practice processes will transverse functional departments and help to break down the silos/walls/barriers to communication between them.

Explain the benefits of processes in general.
Other points to explain:

- A process is a set of activities with a common goal.
- A process can measure the input, output and activities.
- A process will link these measurements to targets.



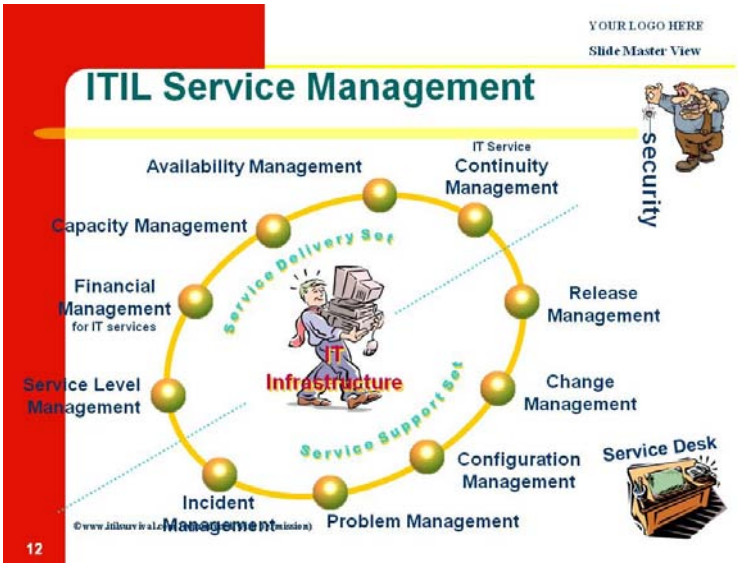
An IT organization needs to focus on all these aspects to deliver the right IT services (effective) in the right way (efficient).

Generally, the **technology** perspective gets a lot of attention (time, budget, people, etc).

More and more people s ee the importance of **processes** (which is why ITIL is getting so popular).

There is also an **organization** perspective: the alignment of vision, strategy and goals with the day to day activities in IT. This is useless, if it is not communicated (which is virtually always the case) and finally, there is the **people** perspective, which looks at the ‘soft side’: is your staff happy, do they have the right skills, are you managing them effectively, etc.

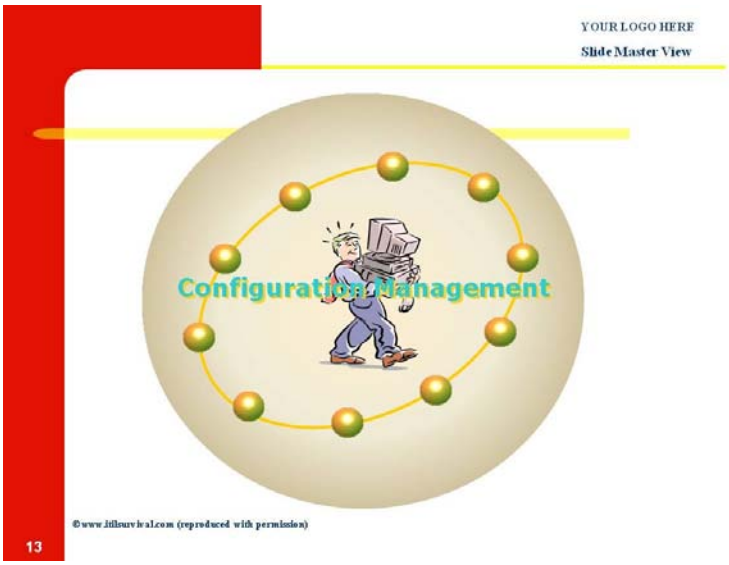
Configuration Management



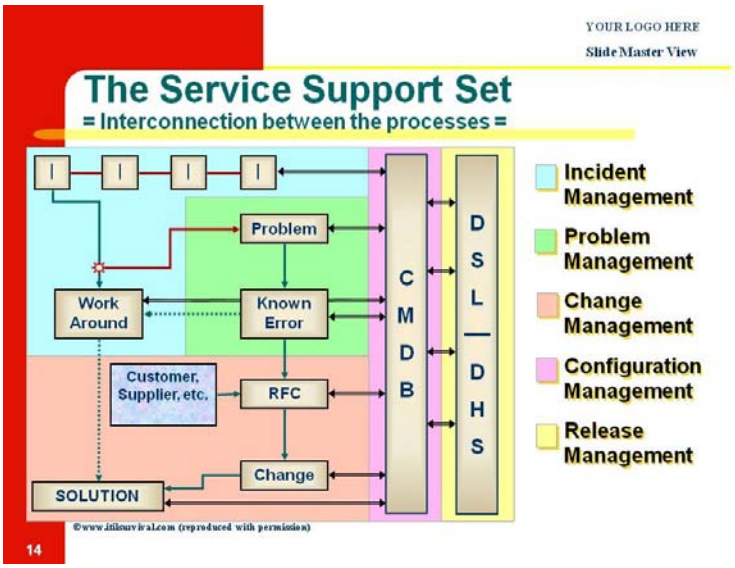
Configuration Management is one of 10 ITIL processes. Here we get to see the others and the one function (Service Desk). Security Management can be included as well, due to its critical importance.

Make sure that participants understand that Configuration Management is not an isolated process, but:

- provides input for Incident Management
- has a strong link with Change management and updates CMDB when changes are successful
- provides information to all other processes
- maintains information linked to CIs provided by other processes etc.



For more information please refer to Policies Objective and Scope on page 59 within this workbook.

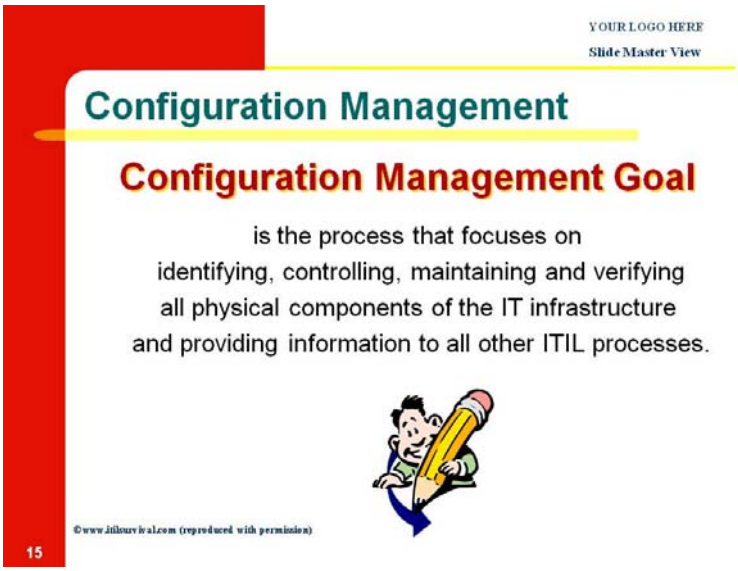


Configuration Management comes from the Service Support Set.

Here is an excellent slide that shows the relationship between Configuration Management and the other Service Support processes.

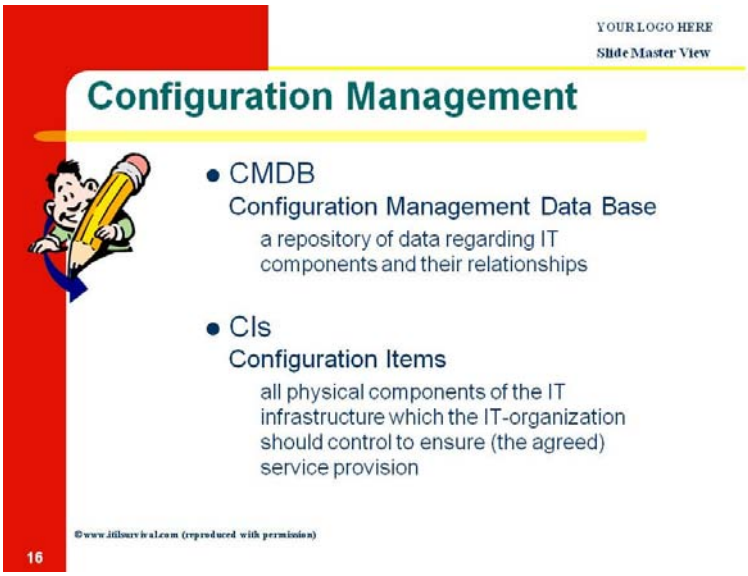
Focus on the fact that the goal of Configuration Management provides the basis for the other processes to do their respective jobs.

Make sure the participants fully understand the necessity of the process to support not only the Service Support set, but the Service delivery set as well.



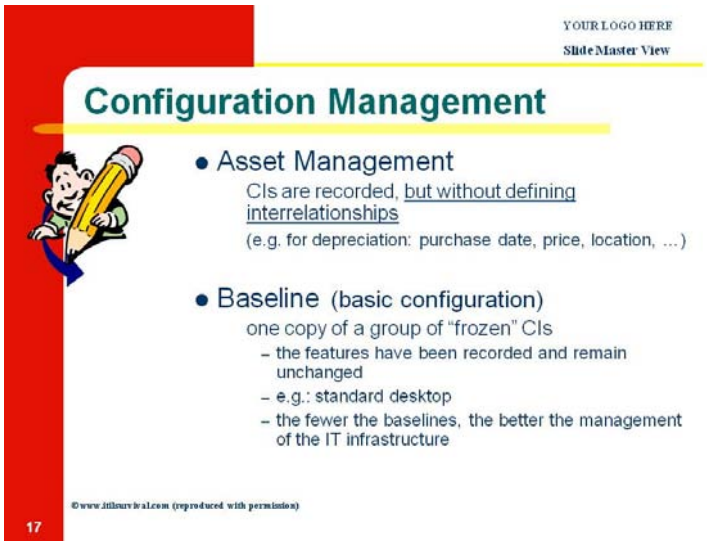
This is the official ITIL objective statement.

For more information please refer to Objectives and Goals on page 63 within this workbook.



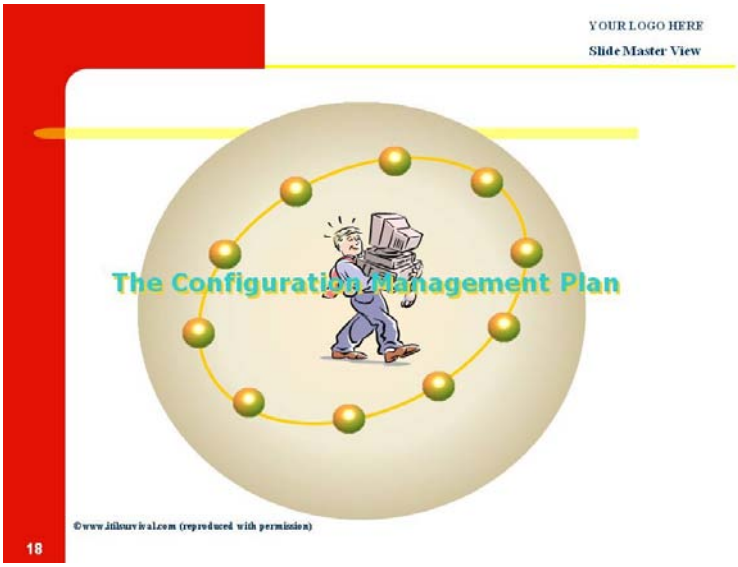
These two concepts are central to the Configuration Management process.

Most CMDB's can be purchased as software tools. Today most vendors of such tools are getting their solutions accredited as being ITIL compliant.

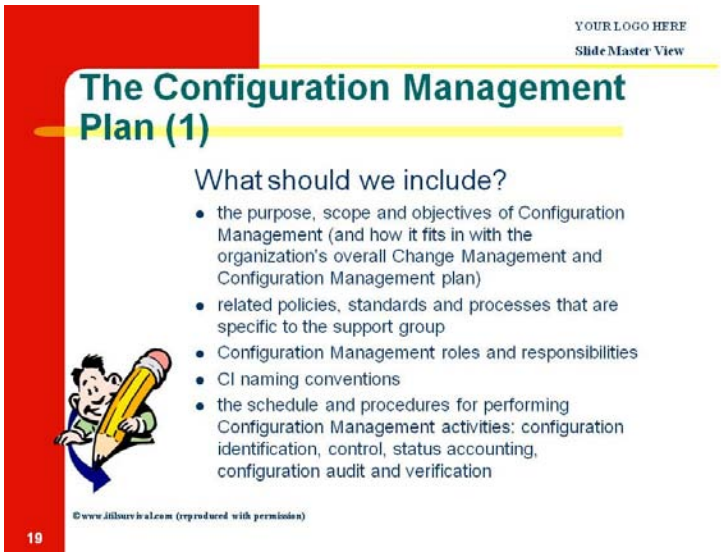


The first bullet on this slide helps to explain the fundamental difference between Configuration Management and Asset Management. Asset Management typically does not track relationships between different CIs.

Setting a baseline helps us to track overall infrastructure changes over time.



For more information please refer to Configuration Process Manager on page 67 within this workbook.


YOUR LOGO HERE
Slide Master View
The Configuration Management Plan (1)
What should we include?
the purpose, scope and objectives of Configuration Management (and how it fits in with the organization's overall Change Management and Configuration Management plan)
related policies, standards and processes that are specific to the support group
Configuration Management roles and responsibilities
CI naming conventions
the schedule and procedures for performing Configuration Management activities: configuration identification, control, status accounting, configuration audit and verification
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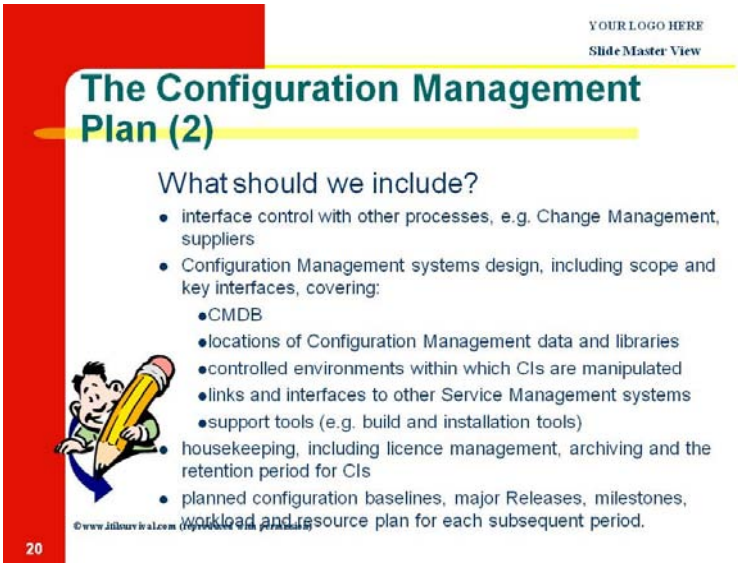
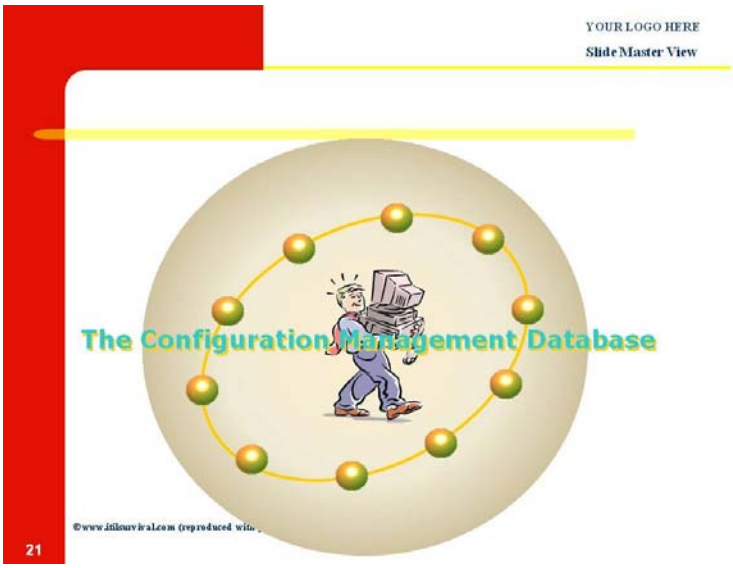
Notes:



The roles within the function should include Configuration Manager, Asset Manager, Change Manager, Change Administrator, Release Manager and relevant Change Advisory Board(s).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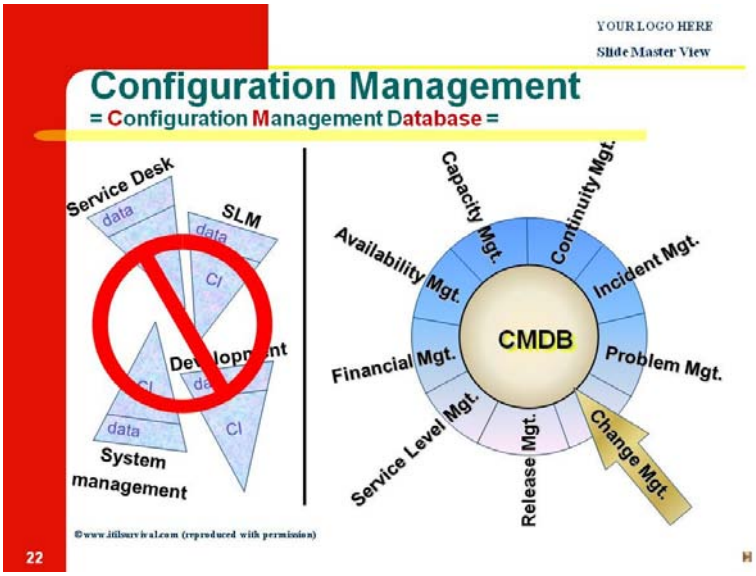
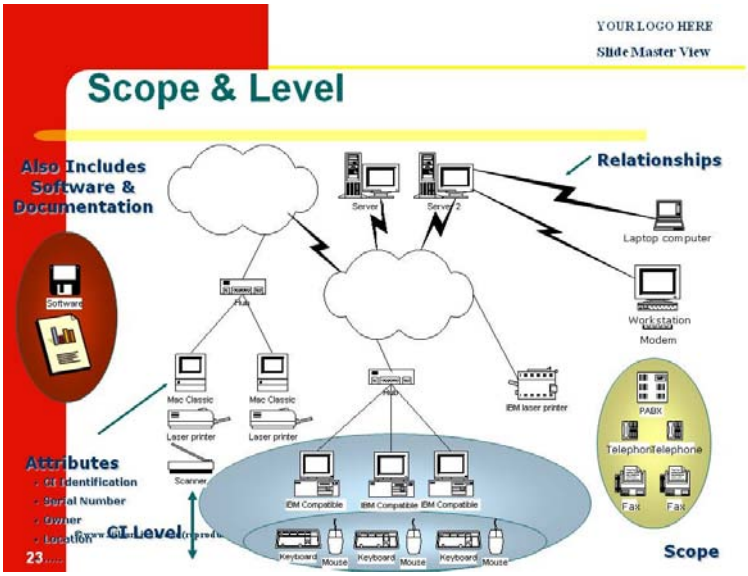
Slide Master View
The Configuration Management Database
21

Notes:

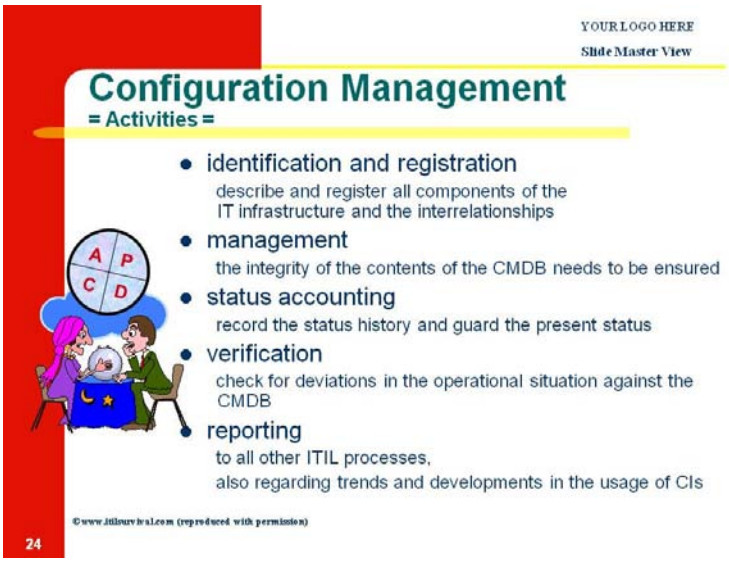


Many organizations are already using some elements of Configuration Management, often using spreadsheets, local databases or paper-based systems. In today's large and complex IT infrastructures, Configuration Management requires the use of support tools, which includes a Configuration Management Database (CMDB).

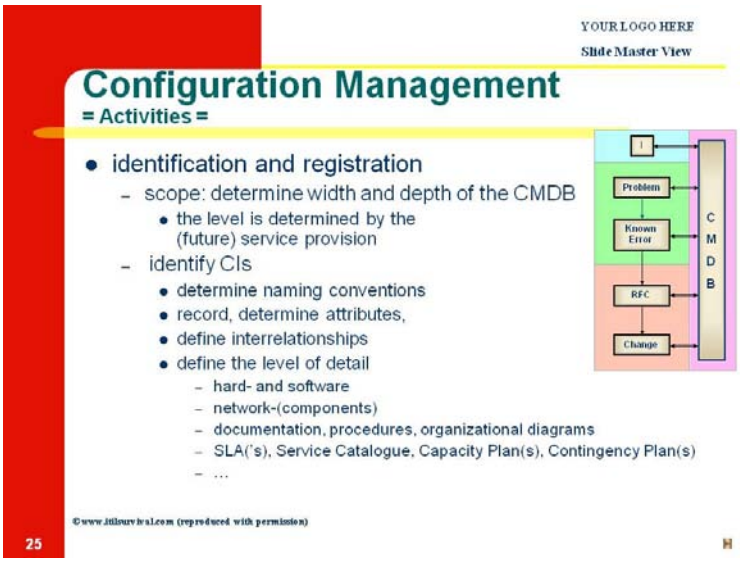
The CMDB is extremely important as is the control of all changes made to it.



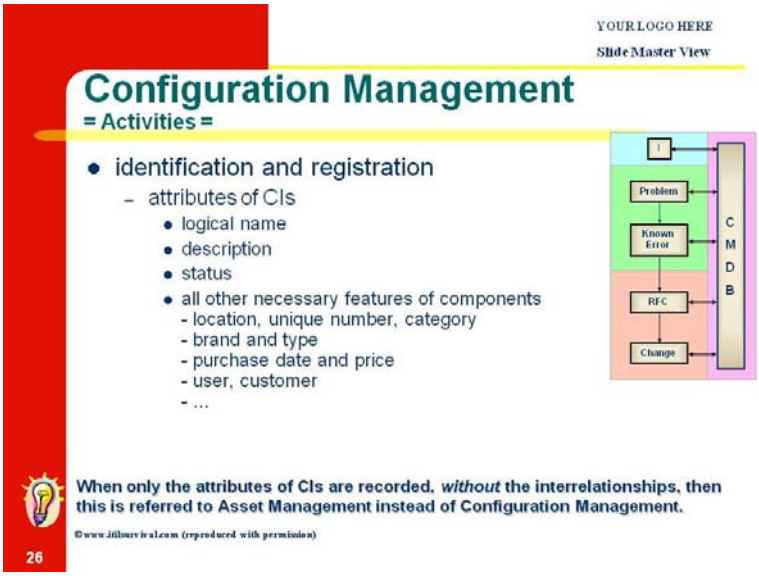
When we start to think about populating the CMDB with information we need to consider what we will control and to what level of detail we want to control.



For more information please refer to Business & IT Service Mapping on page 71 within this workbook.

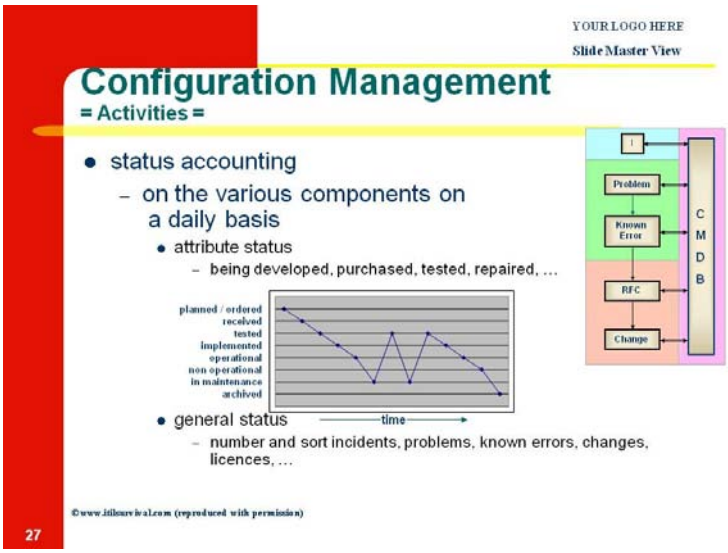


For more information please refer to Identification guidelines on page 85 within this workbook.

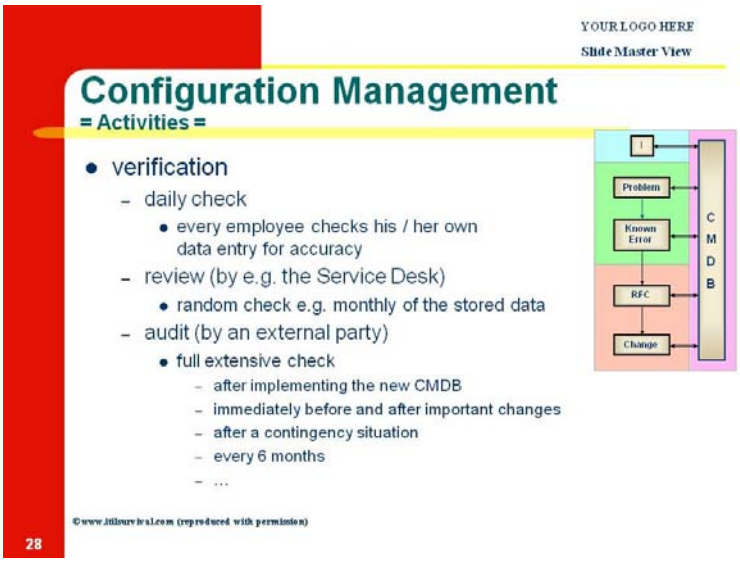


The basic activities of Configuration Management are as follows:

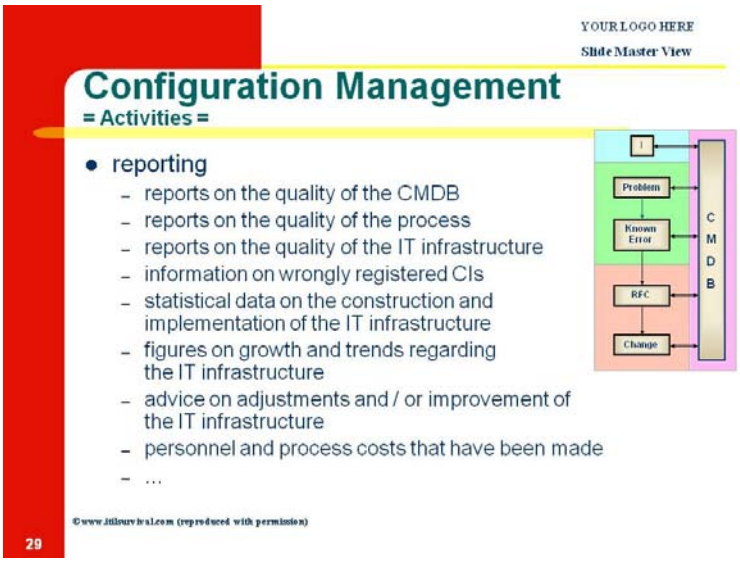
- Planning
- Identification
- Control
- Status Accounting
- Verification and Audit



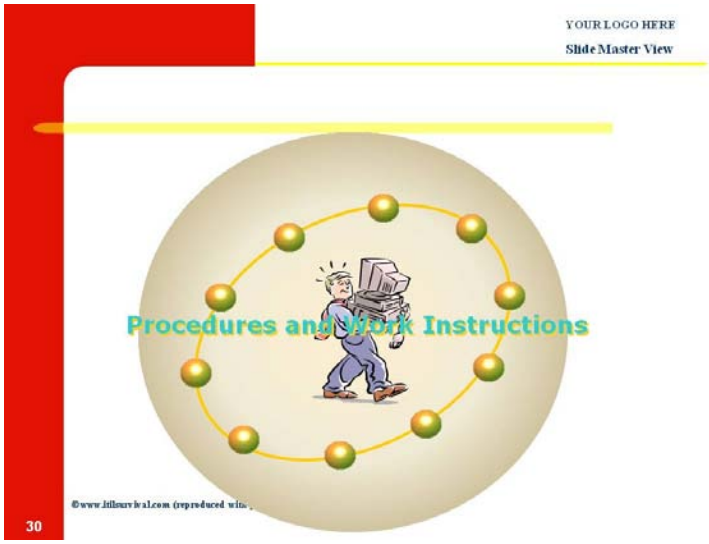
For more information please refer to Status Accounting Guidelines on page 91 within this workbook.



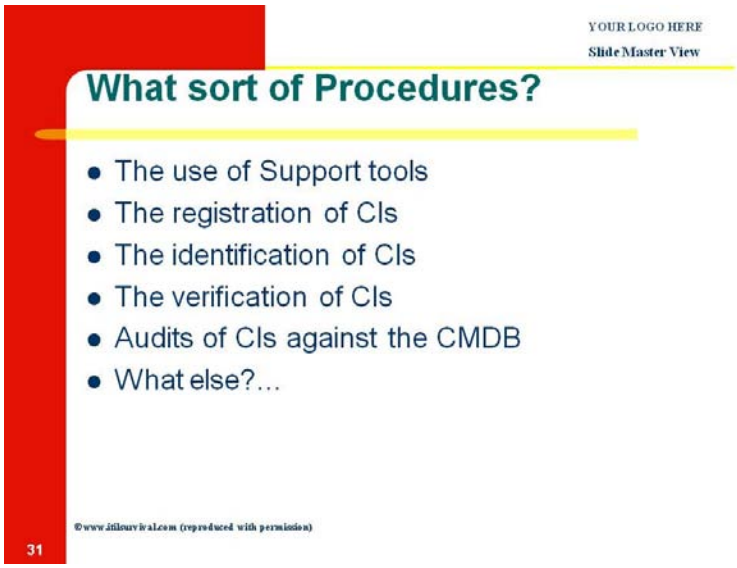
For more information please refer to Verification & Audit Plan on page 95 within this workbook.



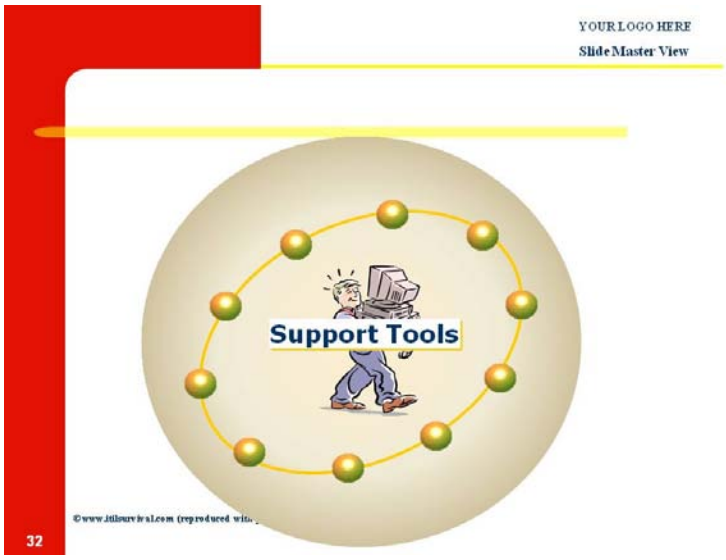
For more information please refer to Verification & Audit Plan on page 95 within this workbook.



Automated processes to load and update the Configuration Management database should be developed where possible so as to reduce error and reduce costs



In this section we are looking at the layer below the Process layer, by starting to review specific activities that need to be drawn up as procedures.



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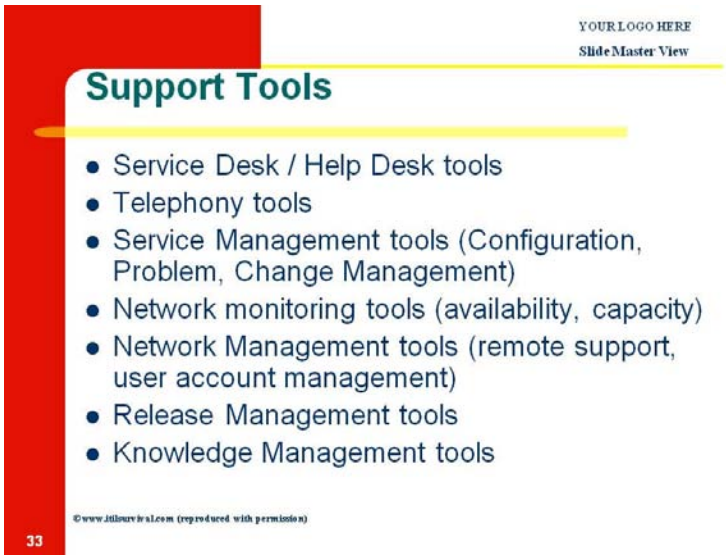
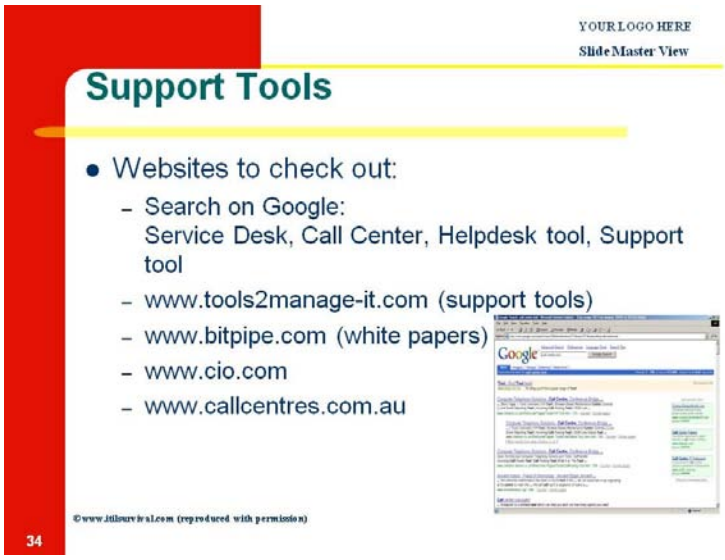
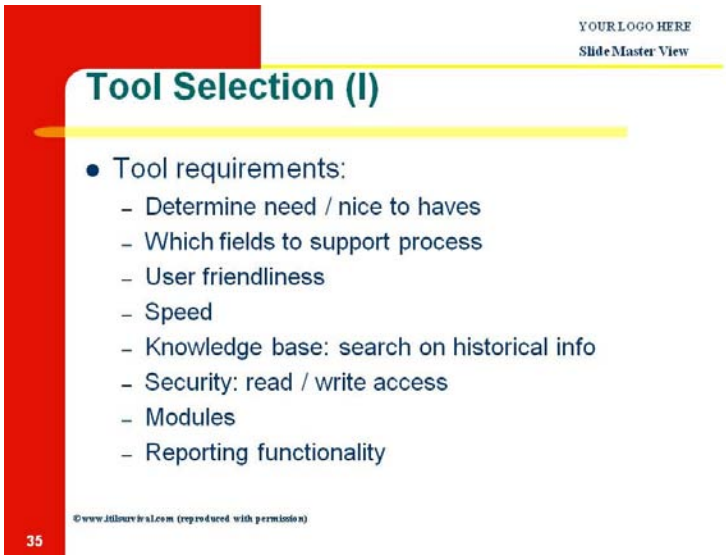


Many organizations have some for or Configuration Management in operation, but it is often paper-based. For large and complex infrastructures, Configuration Management will operate more effectively when supported by a software tool is capable of maintaining a CMBD.

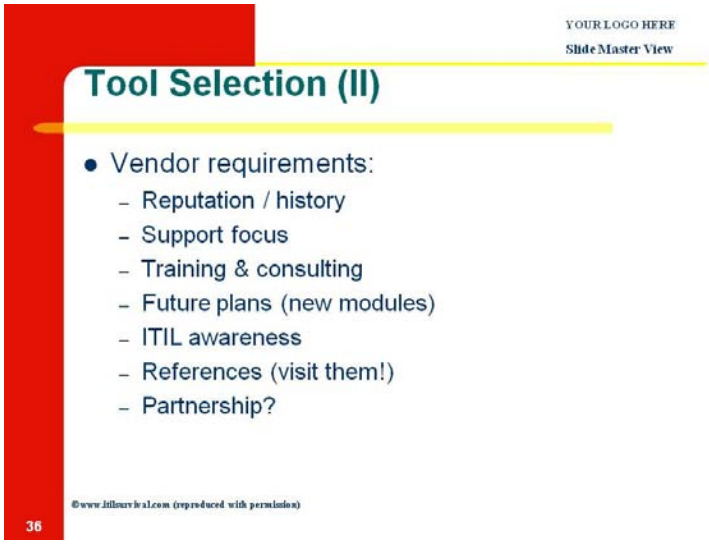


The Configuration Management system should prevent Changes from being made to an IT infrastructure without valid authorization via Change Management.



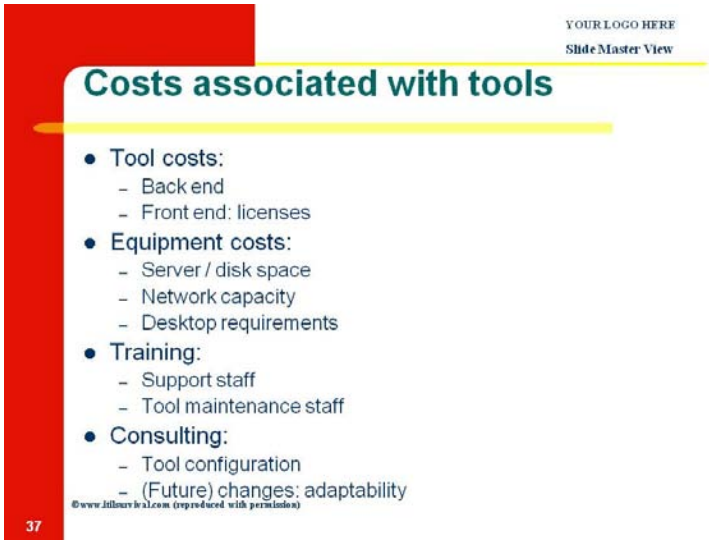
Selecting a tool involves tool requirements and vendor requirements.

You could have a great tool, but if the supplier goes bankrupt, you're stuck. These are fairly straightforward requirements.

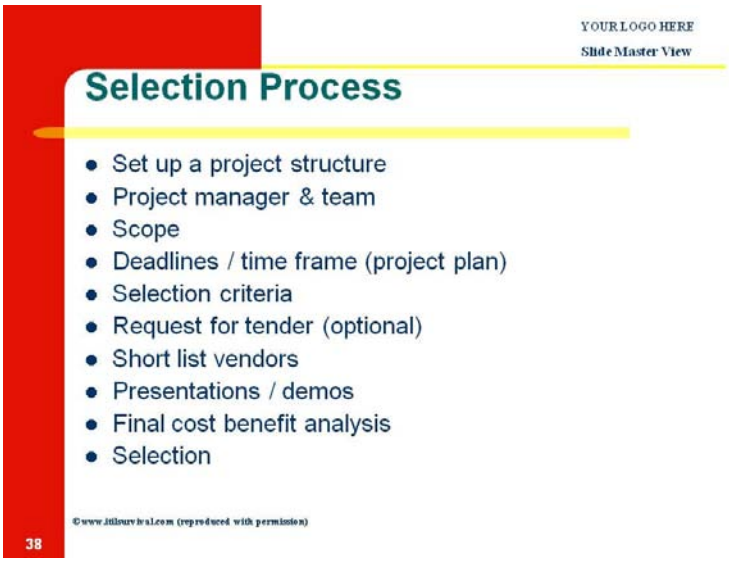


As mentioned on previous page, equally important.

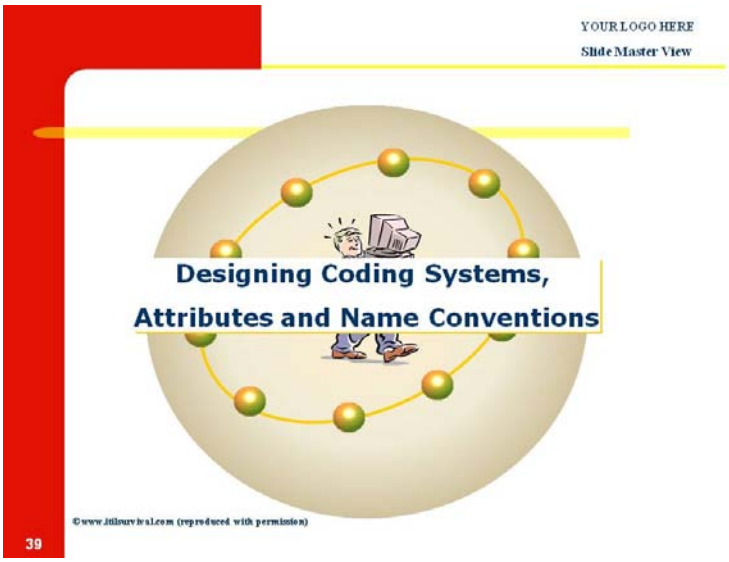
For more information please refer to CMBD Design Document on page 99 within this workbook.



Like any element of IT, the Total Cost of Ownership (TCO) is always going to be much more than any initial purchase price.



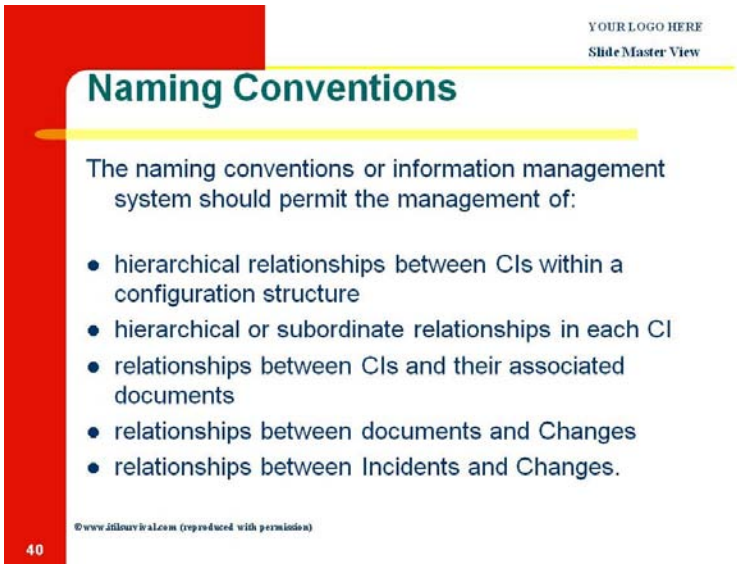
Buying a tool should be considered as a project in itself, given the costs (previous page)



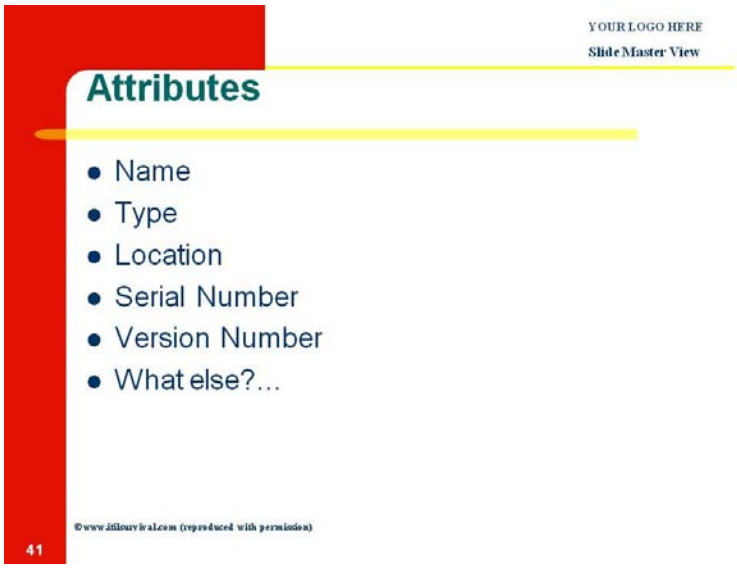
When we look at CIs we need to establish clear guidelines regarding the detail we want to hold and names and other codes required.

USEFUL TIP… What ever is initially thought of, WAIT for at least a week before committing. During this time other considerations will arise.
Think how (when establishing codes, etc.) you can have flexibility for the future.

(e.g. Instead of numbering 1, 2, 3 – use numbering 100, 200, 300… this way you can insert 110, 120, 121, 122 – if sub units materialize.)



Configuration Management is heavily dependent up on a number of other disciplines. Effective Change Management, software control, Release Management, operational acceptance testing, and procedures for the installation and acceptance of new/different hardware and network components are all essential.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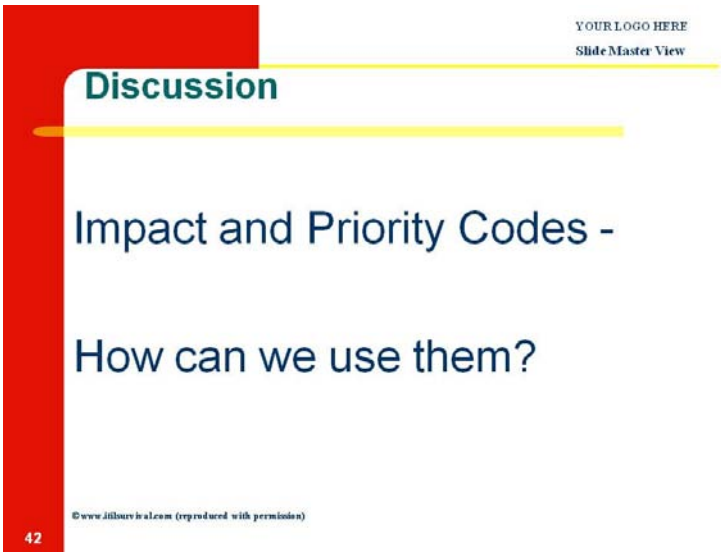
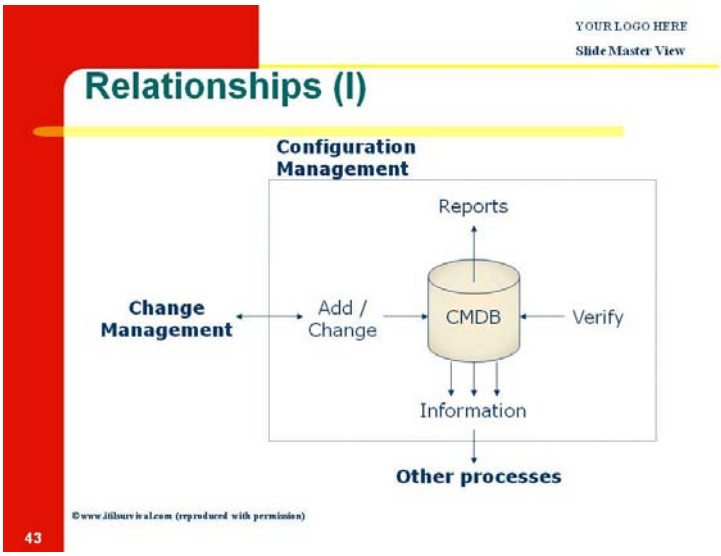
Notes:



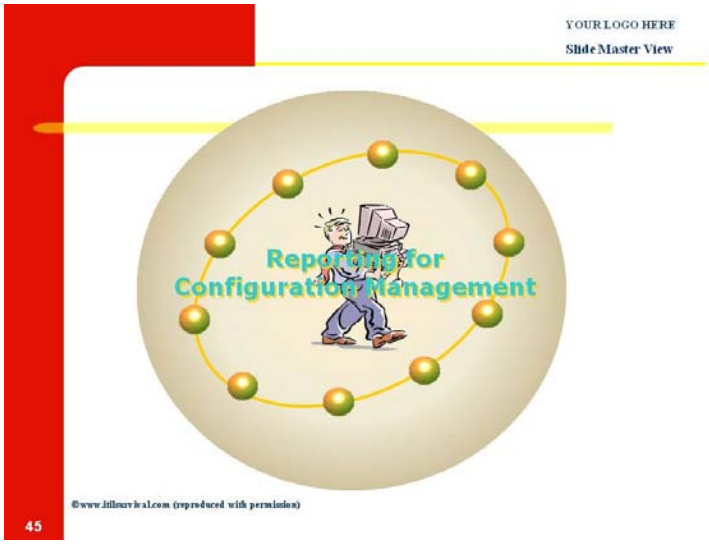
The impact codes are useful to classify CIs that are already identified as having a high (or low) business impact.

Priority codes are useful for identifying the sequence of CIs that should be changed.



Change Management relies heavily on Configuration Management for information about IT infrastructure that could be affected by a Change.

For more information please refer to Communication Plan on page 107 within this workbook.



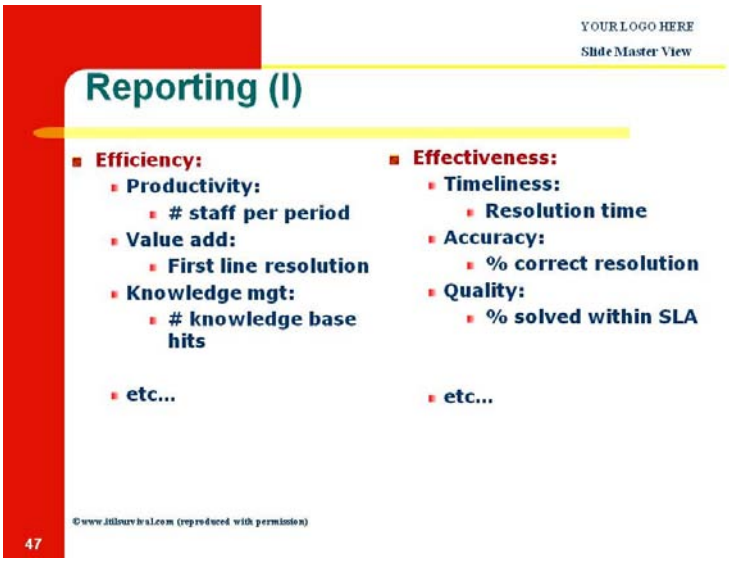
The next few slides are on reporting and answers questions like:

- How to align the Configuration Management process to the business strategy?
- What to measure?
- What to report on?

A Mission Statement should be appropriate for a specific organization. Avoid fuzzy, generic, non-committal statements (like the one in the slide). A Mission Statement should provide staff with a clear direction, a sense of motivation and a base for operational goals.

The business plan will explain how you intend to realize your vision or live up to your mission statement.

The goals / objectives are specific components of this (make sure they are SMART).
The KPIs will tell you to what degree you're successful.


YOUR LOGO HERE
Slide Master View
Reporting (I)
Efficiency:
Productivity:
staff per period
Value add:
First line resolution
Knowledge mgt:
knowledge base hits
etc...
Effectiveness:
Timeliness:
Resolution time
Accuracy:
% correct resolution
Quality:
% solved within SLA
etc...
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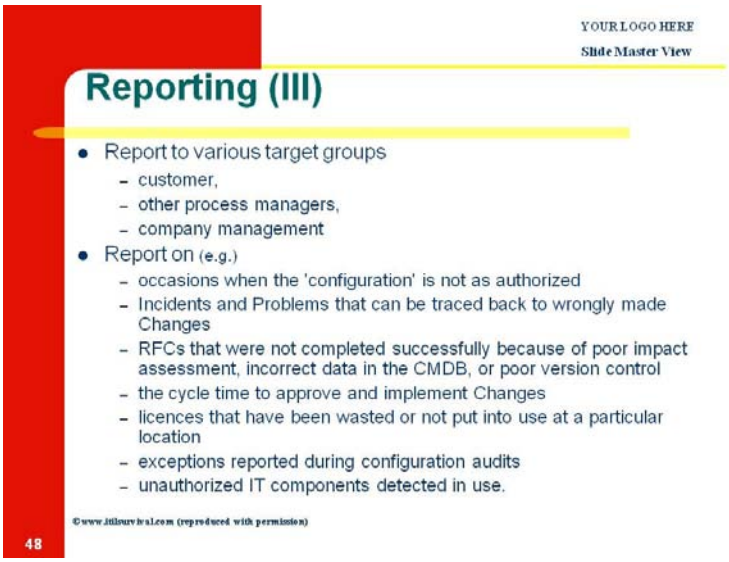
YOUR LOGO HERE
Slide Master View
Reporting (III)
Report to various target groups
customer,
other process managers,
company management
Report on (e.g.)
occasions when the 'configuration' is not as authorized
Incidents and Problems that can be traced back to wrongly made Changes
RFCs that were not completed successfully because of poor impact assessment, incorrect data in the CMDB, or poor version control
the cycle time to approve and implement Changes
licences that have been wasted or not put into use at a particular location
exceptions reported during configuration audits
unauthorized IT components detected in use.
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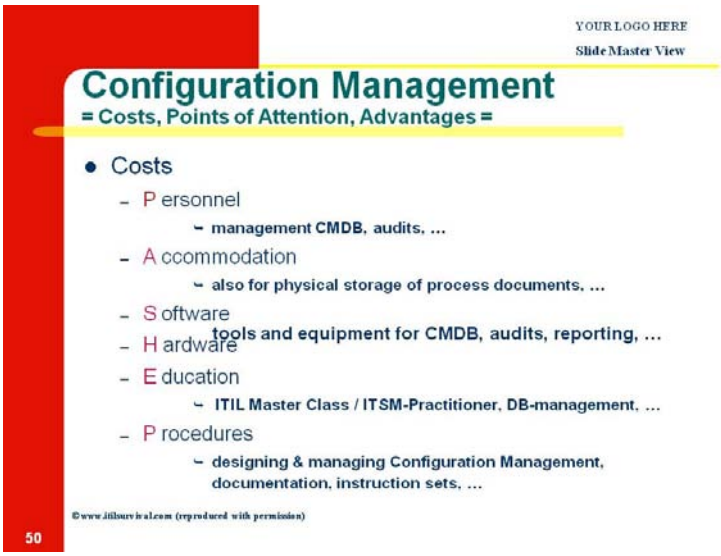
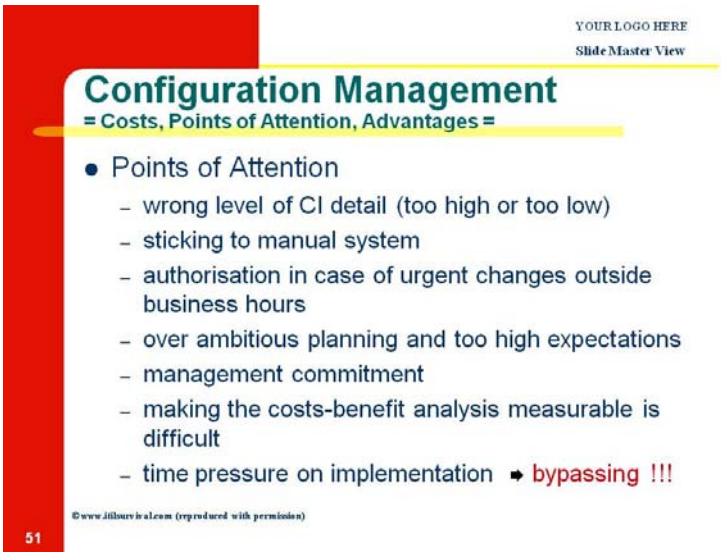


Please refer to Business Justification document on page 115 within this workbook for more information


YOUR LOGO HERE
Slide Master View
Configuration Management
= Costs, Points of Attention, Advantages =
Points of Attention
wrong level of CI detail (too high or too low)
sticking to manual system
authorisation in case of urgent changes outside business hours
over ambitious planning and too high expectations
management commitment
making the costs-benefit analysis measurable is difficult
time pressure on implementation ➡ bypassing !!!
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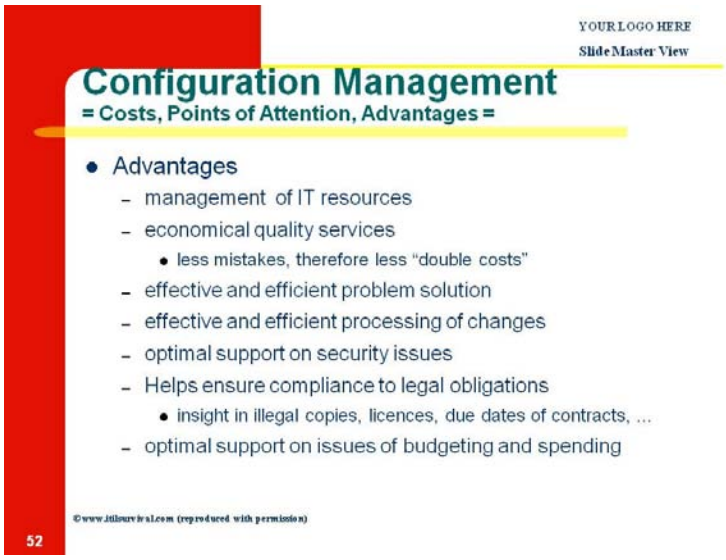
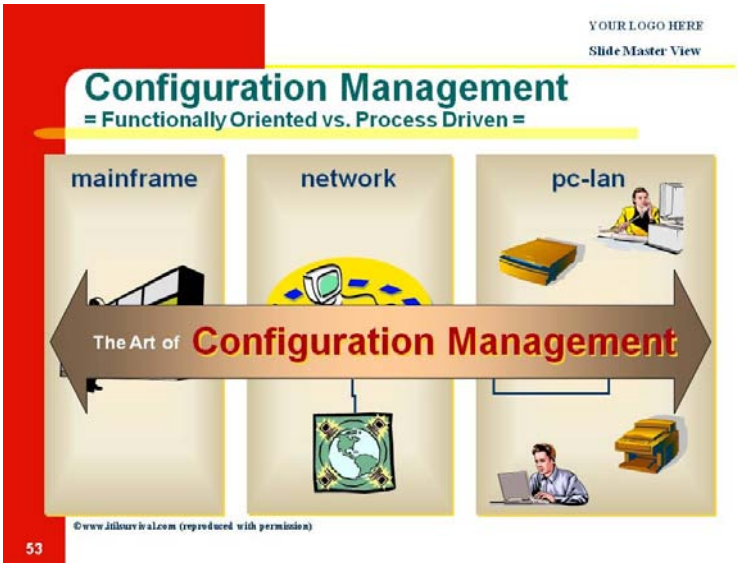


For more information please refer to Reports KPI's and Metrics on page 121 within this workbook.


YOUR LOGO HERE
Slide Master View
Configuration Management
= Functionally Oriented vs. Process Driven =
mainframe
network
pc-lan
The Art of Configuration Management
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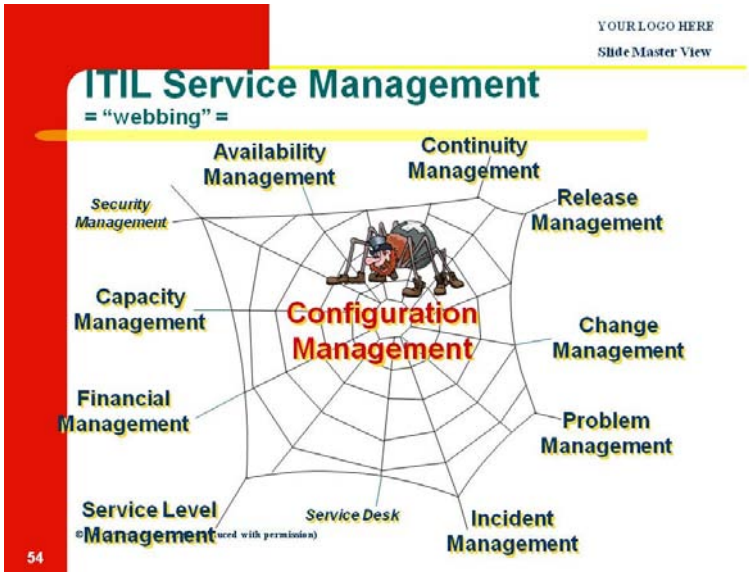
53

Notes:



For more information please refer to Communication Plan on page 107 within this workbook.

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SUPPORTING DOCUMENTS

Through the documents, look for text surrounded by << and >> these are indicators for you to create some specific text.

Watch also for highlighted text which provides further guidance and instructions.

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POLICIES OBJECTIVES AND SCOPE

IT Services

Policies, Objectives and Scope
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Policies, Objectives and Scope for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization.
However, the reader will certainly be reminded of the key topics that have to be considered.

Policy Statement

A course of action, guiding principle, or procedure considered expedient, prudent, or advantageous

Use this text box to answer the "SENSE OF URGENCY" question regarding this process.

Why is effort being put into this process?
Not simply because someone thinks it's a good idea. That won't do. The reason has to be based in business benefits.

You must be able to concisely document the reason behind starting or improving this process.

Is it because of legal requirements or competitive advantage? Perhaps the business has suffered major problems or user satisfaction ratings are at the point where outsourcing is being considered.

A policy statement any bigger than this text box, may be too lengthy to read, lose the intended audience with detail, not be clearly focussed on answering the WHY question for this process.

The above Policy Statement was;

Prepared by: _____

On: <<date>>

And accepted by: _____

On: <<date>>

Configuration Management

Objectives Statement

Something worked toward or striven for; a goal.

Use this text box to answer the “WHERE ARE WE GOING” question regarding this process.

What will be the end result of this process and how will we know when we have reached the end result?
Will we know because we will establish a few key metrics or measurements or will it be a more subjective decision, based on instinct?

A generic sample statement on the “objective” for Configuration Management is:

To create an environment where all IT services and infrastructure components (including relevant documentation) is under control. The Configuration Management process aims to be a provider of information to contribute to an effective and efficient planning, release and implementation of Changes to the IT services.

Note the keywords in the statement. **For the statement on Configuration Management they are “under control” and “provider of information service”. These are definite areas that we can set metrics for and therefore measure progress.**
An objective statement any bigger than this text box, may be too lengthy to read, lose the intended audience with detail, not be clearly focussed on answering the WHERE question for this process.

The above Objective Statement was;

Prepared by: _____
On: <<date>>
And accepted by: _____
On: <<date>>

Scope Statement

The area covered by a given activity or subject

Use this text box to answer the “WHAT” question regarding this process.

What are the boundaries for this process?
What does the information flow look like into this process and from this process to other processes and functional areas?

<u>A generic sample statement on the “scope” for Configuration Management is:</u>

To take responsibility for the control and management of information relating to IT Infrastructure. By taking this responsibility to provide information to both Change Management (CHANGEMGT) and Release Management (RELEASEMGT) so that the impact of change is completely understood and the likelihood of negative impacts from change are minimized.

Furthermore, this process will control information relating to personal computers, shared information servers and all peripheral devices. However, the main frame system and all associated services are excluded from the scope.

A scope statement any bigger than this text box, may be too lengthy to read, lose the intended audience with detail, not be clearly focussed on answering the WHAT question for this process.

The above Scope Statement was;

Prepared by: _____
On: <<date>>
And accepted by: _____
On: <<date>>

OBJECTIVES AND GOALS

IT Services

Detailed Objectives/Goals
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Detailed Objectives/Goals for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization.
However, the reader will certainly be reminded of the key topics that have to be considered.

The detailed objectives for Configuration Management should include the following salient points:

Objective	Notes
A desire to provide accurate and correct information on present configurations with both the physical (specific attributes about a CI) and functional specifications (part that the CI plays and it's relationships with other CIs).	Met/Exceeded/Shortfall 😐 ☺ ☹ Dates/names/role titles
A storage objective related to definitive and trusted copies of documentation, software and other specification documents that have been duly authorized.	
After they have been agreed upon a specific objective for the process is to continue reporting metrics. This is an activity that is often forgotten over time or simply not done from the out-set.	
Undertaking logistical activities including the labelling (after identification) and recording of names and versions of the CIs that make up the IT services and the IT infrastructure.	
Ensuring the large volumes of data from changes or when the process is first set up is accurately entered into the CMDB and that the entry is timely and not too late in order to deliver process benefits.	

Verification and auditing duties so that we can have an assurance that the actual state of the IT infrastructure matches the authorized configuration records and data (including exception reporting).	
Providing on-going awareness, education and training for staff involved with the process and communication to non-involved, but affected personnel.	

Use these objectives to generate discussion about others that may be more appropriate to list than those provided

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CONFIGURATION PROCESS MANAGER

IT Services

Roles, Responsibilities
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Detailed responsibilities of the Configuration Management team

The Configuration Manager…..

	Description	Notes/Comments
1.	Designs and seeks agreement on the scope of the entire Configuration Management processes (including the items to be controlled and the information to be captured and recorded). The manager will also develop process standards, process plans and procedures.	**Use the notes/Comments column in different ways. If you are looking to apply for a process role, then you can check yourself against the list (with ticks or look to update your resume).** **If you are looking to appoint a process manager or promote someone from within the organization you can make notes about their abilities in the particular area.**
2.	Seeks support for the new process through a well designed communication and awareness program.	
3.	Will ensure that changes to the process methods and processes are properly approved, communicated and managed through the Change Management process. The process manager also oversees implementation of new Configuration Management systems, after proper planning and communication.	
4.	The manager ensures that the overall objectives of the process are agreed with the IT Services Manager. The process manager has the responsibility to implement the Configuration Management policy and standards.	
5.	Ensures that the right staff for the process team is selected from applicants and has a direct interest in ensuring that they receive adequate, relevant and on-going training.	
6.	Reviews the marketplace for systems and tools that will aide the process to perform better. Is mindful of the financial and resource constraints that selecting new tools implies. Is aware that new tools have to be evaluated for a technical fit. Will manage or perform any tool customization required to suit the business.	
7.	Conducts reviews and evaluations of current process systems. The Manager also designs and implements improvements to current systems (includes progress monitoring and reporting).	
8.	Create and provide on-going management of the Configuration Management plan. Responsibilities in this area extend to designing the ways that Configuration Item information is controlled, the security levels associated and ensures that roles and responsibilities are clearly articulated.	

9.	Establishes naming styles and conventions for the Configuration Items that are to be managed and controlled. The manager also has to oversee that staff are complying with the “rules/standards” established.	
10.	Liaises with other process owners & functional areas (e.g. Change Management, Problem Management, Release Management, operations, logistics, Financial Management for IT Services) to ensure that solid and relevant relationships are maintained.	
11.	Oversees, plans the structure and ensures data is input into the Configuration Management Database – the main tool of the Configuration Management process.	
12.	Will compile and provide to management a variety of reports (including recommendations for actions to deal with current or foreseen problems and status reports that provide a summary of the status of all Configuration Items (CIs).	
13.	Acts as a primary source of information for the Change Management process, based on a qualified Request for Change (RFC). The process manager has responsibility to help the Change Manager decide the impact that a suggested change will have on the IT infrastructure. Linking with Change Management the process manager makes sure that changes to the CMDB or Configuration Management plan or policies or procedures are managed through a structured Change Management process.	
14.	Will make information available from the CMDB to help the incident or problem management processes identify related CIs that are linked to a CI that has a reported fault.	
15.	Undertakes or manages audit and verification activities to ensure that the physical reality of CIs matches the information description in the CMDB.	
16.	Thinks strategically about the future requirements for the process and promotes enhancements to the process. As part of this activity, on-going operational costs and/or capital costs required for major improvements will be submitted to the Financial Manager for budget allocation.	
17.	Works with internal or external audit staff who have an interest to check that the process activities are being carried out according to the plans defined.	

	Part of this process is to review and comment on the performance against pre-defined benchmarks.	

The Configuration Librarian Responsibilities

Within this process there is a specific and particular role that has to be fulfilled. The Configuration Librarian is the owner and "protector" of copies of master software and documentation CIs registered with Configuration Management.

The major tasks of this role are:

- to number, record, store and distribute Configuration Management issues.
- to control the receipt, identification, storage, and withdrawal of all supported CIs
- to provide information on the status of CIs

Specific responsibilities are to:

1. Help the process owner prepare the process Plan.
2. Establish a scheme for identifying Configuration Management libraries and the definitive software library.
3. Produce reports on the status of CIs
4. Assist with the execution of audits
5. Build storage areas and libraries to hold CIs
6. Assist in the identification of products and CIs
7. Maintain current status information on CIs
8. Hold master copies of software
9. Issue copies of products for review or change when authorized
10. Maintain a record of all copies issued
11. Archive superseded CI copies

BUSINESS & IT SERVICE MAPPING FOR CI's

IT Services

Business and IT Service Mapping for Configuration Items

Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Document Control

Author

Prepared by <name and / or department>

Document Source

This document is located on the LAN under the path:

I:/IT Services/Service Support/Business and IT Service Mapping/

Document Approval

This document has been approved for use by the following:

- <first name, last name>, IT Services Manager
- <first name, last name>, IT Service Delivery Manager
- <first name, last name>, National IT Help Desk Manager

Amendment History

Issue	Date	Amendments	Completed By

Distribution List

When this procedure is updated the following copyholders must be advised through email that an updated copy is available on the intranet site:

<Company Name> Business Unit	Stakeholders
IT	

Introduction

Purpose

The purpose of this document is to provide relevant IT departments with an understanding of how the IT Services provided map to the Organizations business processes, to capture all the relevant configuration items that are involved in the delivery of the IT Services.

Scope

This document describes the following:

- Summary of the Business Processes and the corresponding IT Services provided by the IT departments within the Organization:
  - Summary of business processes
  - Summary of IT Services
  - Configuration Item Mapping
- Details of the configuration items that make up the IT Services

Note: It is assumed for each Business Process and IT Service described in this document that the supporting back-end technology is already in place and operational.

Audience

This document is relevant to all staff in <company name>

Ownership

IT Services has ownership of this document in conjunction with nominated Business Representatives.

Related Documentation

The following documents may help you to complete or understand the purpose of this document:

- SLM1400 Business and IT Service Mapping
- Relevant SLA and procedural documents

- Relevant IT Services Catalogue
- Relevant Technical Specification documentation
- Relevant Functional Specification documentation
- Relevant User Guides and Procedures

Executive Overview

In the past organizations IT Services have generally grown and developed into large complex environments. Unfortunately this growth has not always been as structured and pre-planned as it needs to be.

This has resulted in the IT department not having a very clear picture of all the services they currently provide with no accurate profile of the actual customers for each of these services.

Therefore it has become imperative for the IT department to establish an accurate picture of the services it provides.

This document describes an approach for mapping IT Services and their components to the Business Process.
Mapping Business Process and IT Service: An approach

Most organizations now understand the benefits of having Information Technology (IT) throughout their structure. Few realize the potential of truly aligning the IT department’s objectives with the business objectives. However, more and more organizations are beginning to recognize IT as being a crucial delivery mechanism of services to their customers.

When the IT services are so critical, steps must be in place to ensure that the IT group adds value and delivers consistently.

In line with this concept, the first step in mapping IT Services to the needs of the business is to understand the Organization.

An organization starts with a Mission Statement. The Mission Statement for an Organization defines its reason for being. Once we capture the Mission Statement, the next thing to look at is the Vision Statement.

The Vision Statement defines where it is that the organization wants to go. By understanding where the organization wishes to position itself within its market space, then we can start looking at how its short term and long term objectives align with this.

At this point we now need to start capturing the “objectives and strategy” of the Organization. By having this information, IT departments are more likely to be aware of the pressing business issues and needs that may impact on the services that they provide. For example, the organization may have an objective of expanding its business into new markets within the next 12 months, requiring additional offices and staff. The direct impact on IT departments would be the successful planning of capacity of new IT Services, the successful planning of how to change our current services to meet the demands of the business, and being flexible enough to meet these demands.

However, an objective is not sufficient enough to determine how IT departments should be delivering its services. The Organization will meet these objectives by changing, enhancing or creating new business processes. For example, Admin staff may need additional resources, a new ordering package may be required, or perhaps a new billing process needs to be implemented to meet these objectives.

Therefore, after capturing the Organizational objectives, we need to understand how these map to current business process, if the current business processes are changing or becoming obsolete and if there will be any new business processes.

Once the IT departments have a clear view of each of the business units and their business process, we need to capture the fact that the business

processes need one or more IT services (e.g. CRM application, e-mail, word processing, financial tools) to function.

After having captured the IT Services, the next logical step is to break down the services into the components that exist within the IT Infrastructure so that we can then map them back to the IT Service.

The “components” that make up the IT Services are referred to as configuration items or CIs for short.

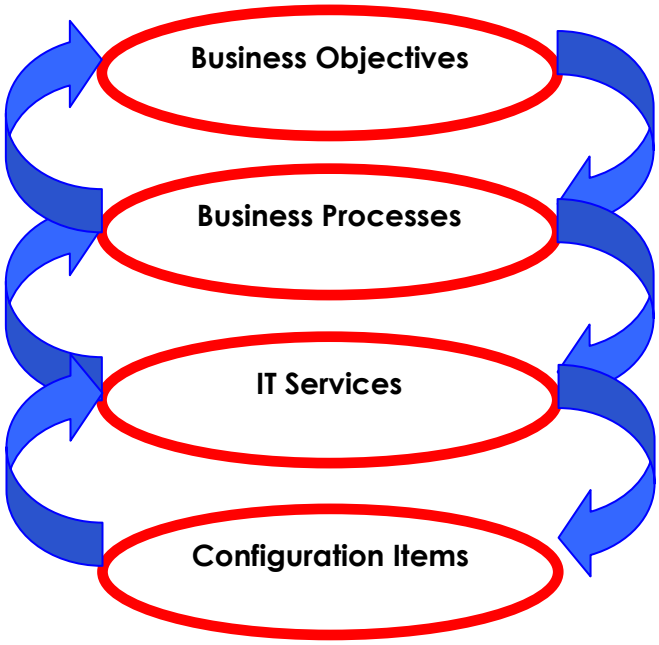
This is generally considered the most difficult part of the process and requires a reasonable amount of planning. The recommended approach is to run this activity as a project in conjunction with the Configuration Management process.

For further information please see the following documentation:

CONMGT3200	Configuration Management Implementation Plan / Project Plan
CONMGT3300	Configuration Management Policies, Guidelines and Scope Document
CONMGT3800	Identification Guidelines Document
CONMGT3900	Status Accounting Guidelines
CONMGT4000	Configuration Management Verification and Audit plan and templates
CONMGT4100	Configuration Management Database (CMDB) Design document and template.

A simple model for this approach is illustrated below.

- What are the Objectives of the Organization? What is its Mission and Vision?
- What Business Processes are in place or will be in place to meet these needs?
- What IT Services are needed or in place to service the Business Processes?
- What are the configuration items of the IT Infrastructure that make up the IT Services?



Benefit of the Approach

With the current world client it is becoming increasingly important for organizations to be flexible in the services they deliver to their customers. Customers are becoming more demanding and discerning in their approach to buying service and products.

As a result of this organization are under increasing pressure to deliver quality services. This has resulted in the business putting an even greater demand on IT departments while at the same time trying to reduce the cost of IT Service which have generally been seen as an overhead. As such, organizations are paying greater attention to their IT departments and their approach in delivering services.

The above approach provides IT departments with a structure in mapping and recording the services that they deliver to the needs of the business. IT departments that have been using this approach are now better positioned to understand the make up of the services that they offer, the service level they need to offer the services at, and the cost of these services.

The result of directly mapping IT Services to the business and understanding how the Configuration Items make up the service can highlight where insufficient resources exist, but even more importantly where there has been an over expenditure on resources that may not be needed by the organization anymore.

By directly mapping the configuration items to IT Services and how they are aligned to the business, IT departments are better positioned to provide and account for the services they need to deliver. This has resulted in better IT spending in an economy where IT budgets are having greater demands placed on them.

Mission Statement

A mission statement describes the reason for the organizations being. Without an understanding of the mission statement of an organization, it becomes hard to define what it is that the organization is trying to achieve.

In this section of the document capture the mission statement of the organization. It is important to show that the IT department is aware of the business.

Vision Statement

In this section, document the Vision statement for the Organization.

Below is a text example of what may be included in this section.

<<

Listed below is the Vision Statement for <Company Name>:

- **Quality Care**
- **Convenient Service**
- **Good Experiences**
- **Care at Competitive Prices**
- **Service You'll Recommend to Friends and Family**

These are the major goals of the staff at <Company Name>. With over 150 services and 400 staff, we constantly strive to provide the highest-quality service throughout the Mid-South.
>>

Business Process Summary

When trying to map out all the configuration items of the IT infrastructure, you need to first ensure that you have clearly identified all the current business processes that the organization is using to deliver services to their customers. The list of business process will then be supported by IT Services. See next section.

The below table is an example of a Business Process Summary Table. Columns and Rows can be added as needed.

To find out about mapping Business Process and IT Services please see the following document(s):

- Business and IT Service Mapping

<<

Process Name: The name of the process if available
Process Owner: The name of the Department head or Business Representative for the process
Description: A brief description of the process
Department(s): The Department(s) that is involved or uses this process
Parent Process: Any process that may be considered a lead into this process or is seen has having a higher business criticality
Triggers: What causes the process to start? This is important as IT can then determine if and how their Services interact with other business process or external organizations.

>>

Process Name	Process Owner	Description	Department(s)	Parent Process	Triggers

IT Service Summary

The next step in the process is to ensure that we capture a summary of the all of the IT Services being provided to the business. Once we have a clear picture of this, we can then start to think about breaking down the IT Services down to the component level.

<<

IT Service: The name of the IT Service being provided to the organization.

Service Version: In some instances there may be Customers or Business Units that are using the same service, for example email, but have in place agreements for different levels of service for that IT Service. In these instances it is advisable to capture the different “Service Versions”.

IT Service Owner: The owner or support group that is responsible for delivery and support of the IT Service.

Description: A brief description of the IT Service. This is an optional field and may be dropped for more important information.

Contract: In some instances IT Services will be provided in conjunction with a contract. For internal IT departments, there may not be a contract for the services they provide and therefore this field can be considered optional.

Covering SLA: Capture any Service Level Agreements that apply to the IT Service.

Service Hours: List the hours of operation for the IT Service.

Customer / Business Unit: List any those customers or business units that use the IT Services.

Business Process: To understand the business impact of the IT Service it is important to capture the Business Process that the IT Service supports.

Business Impact: If the IT Service is unavailable, how will this impact on the business? This information can be used in conjunction with Service Level Agreements and goes towards IT departments understanding how the service that they provide will impact on the business. This in turn can help engender a better sense of urgency when dealing with errors and incidents within the IT Infrastructure.
>>

IT Service	Service Version	IT Service Owner	Description	Contract	Covering SLA	Service Hours	Customer / Business Unit	Business Process	Business Impact

IT Infrastructure Component Mapping

Once the Business Process and their corresponding IT Services are captured and documented, it is then possible to start the mapping of the configuration items.

The below table provides a template for capturing IT Components (Configuration Items) against the IT Services.

IT Components (Configuration Items (CI))					IT Services			
CI #	**Serial #**	**CI Name**	**Type**	**Sub-Type**	**Service A**	**Service B**	**Service C**	**Service D**
SER345	15434563	EMERO	Hardware	Server				
RT5700	54444443	CISCO-002	Hardware	Router				
RT4567	76547457	CISCO-001	Hardware	Router				
MS001	N/A	MS Office	Software	Microsoft				

This information is critical in providing quality and known services to the organization.

For example, if we were to look at the two CISCO routers above, we can see that CISCO-002 is integral to all four services listed above, whilst CISCO-001 is only integral to two of those services.

This information will now help in the planning process of Service Level Management and agreeing to levels of service that rely on those particular configuration items.
We can also use this information in conjunction with our IT Service Continuity planning. In the above table it would be important to ensure that in the event of CISCO-002 failing, affecting 4 services, that we have appropriate measures in place.

After this mapping has occurred, we should be able to discover all those configuration items that exist in our environments that are no longer part of a larger IT Service. There are reported cases of IT departments discovering large amounts of configuration items existing within the infrastructure that no longer provide a service. In most cases, the IT department was still paying maintenance and licensing fees for those parts of the infrastructure.

To get a list of your configuration items, you will need to go to your Configuration Management Database.

For more information on Configuration Management and the CMDB please see the following documents:

CONMGT3300	Configuration Management Policies, Guidelines and Scope Document
CONMGT3800	Identification Guidelines Document
CONMGT3900	Status Accounting Guidelines
CONMGT4000	Configuration Management Verification and Audit plan and templates
CONMGT4100	Configuration Management Database (CMDB) Design document and template.

Appendices

List any appendices needed in conjunction with this document.

Terminology

IT Infrastructure: includes hardware, software, procedures, policies, documentation, etc.

Configuration Item: those components that are recorded that make up the IT Infrastructure in helping supply a service back to the Organization.

IDENTIFICATION GUIDELINES

IT Services

Identification Guidelines
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Identification Guidelines for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization. However, the reader will certainly be reminded of the key topics that have to be considered.

This document serves as a DATA DICTIONARY for the Configuration Management process. This document provides a basis for completion within your own organization.

This document contains suggestions regarding the CIs that can be captured and is the document that will fuel thoughts about other CIs that are specific to your organization or particular need.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

First Word – PLAN THE LEVEL OF DETAIL FIRST

Establish what will be the lowest level of detail that will be required. The test is to ask if that level of detail will be usable to assist business managers to make more informed decisions.

If the answer is No, then carefully consider the value of maintaining information to that depth. Time taken during this step will pay future rewards.

Proper prior planning prevents poor performance.

Configuration Item (CI) attributes

The following list provides examples of attributes that could be associated with Configuration Items (CIs) in the CMDB.

As you would expect the most relevant attribute for a CI is based on it's substance (e.g. hardware, software, documentation, etc.)
(Note the difference between a CI, attribute and value can be explained using this example.. A car would be a CI, Color would be an attribute, Red would be the value)

Attribute	Description	Notes/Comments
CI Identifier	The unique identifier by which this type of CI is referred to (NAME).	
Unique Number	The number that uniquely identifies the CI (e.g. software serial number, hardware serial number).	
CI Category	Whether the CI can be categorized as documentation, hardware, software, etc.	
(Hardware) Model Number	Model of the component (usually the suppliers model number).	
Warranty expiry	Date when the supplier's warranty	

date	expires for the component.	
Version Number	The version number of the CI.	
Location	The physical location of the component, e.g. floor, cubicle, building number, city, site.	
Owner Responsible	The name and (preferably) title of the owner responsible for the CI.	
Responsibility Date	Date the above owner became responsible for the CI.	
CI Source	Was the component developed internally or purchased from an outside supplier.	
Licence	Licence number or reference to licence agreement (usually a paper licence document)	
Supply Date	Date when the CI was delivered or the organization took official ownership.	
Current Status	Is the component currently in production, live, archived, awaiting destruction?	
Scheduled Status	Within reason the next expected status for this component.	
Parent relationships	The unique identifier of components that this CI forms a component of.	
Child relationships	The unique identifier of components that this CI directly supports.	
Relationships	The relationship of the CI with other CIs …uses … ….is connected to…….. ….is resident on…. ….can connect to…. …..is able to access….	
RFC Numbers	The number of change requests that directly affect this CI.	

Problem Record number	Problem record id numbers that are related to the CI.	
Incident Record number	Incident record id numbers that are related to the CI.	
Comment	A comment field (generally free text)	

Configuration Items (CIs) will be created from the following categories

Category	Notes/Comments
Change documentation	
Hardware (including network components where relevant)	
Business systems (specific applications) – e.g. SAP, Oracle	
Packaged software (“off-the-shelf” packages and products).	
System software (Operating Systems)	
Network configuration items	
Databases	
Links between databases and applications.	
Configuration documentation, e.g. system and interface specifications licenses, maintenance agreements, SLAs, decommissioning statement	
Other documentation (procedures, forms, etc.)	
Service Management items such as plans and records	

Final word - When to use “Variants”

If a Configuration Item is regarded as “slightly different” from a related CI, and if problems that would affect one are likely to flow through to the other (or changes to one should probably be made to the other) then using a “variant” is most likely acceptable. In all other cases a different CI should be created.

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STATUS ACCOUNTING GUIDELINES

IT Services

Status Accounting Guidelines
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Status Accounting Guidelines for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization. However, the reader will certainly be reminded of the key topics that have to be considered.

This document serves as a REFERENCE GUIDE ON CI STATUS for the Configuration Management process. This document provides a basis for completion within your own organization.

This document contains suggestions regarding the status that a particular CI can be categorized as. The document will fuel thoughts about other possible statuses specific to your organization or particular need.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

Status reports on IT infrastructure should be produced on a regular basis. The reports should highlight the current quantity of CIs being controlled and the breakdown of their different status.

Such a report can assist management to see the overall health of their IT infrastructure and to be able to make strategic decisions regarding change of supplier, investigation of the management techniques or identification of cyclical status changes (which will allow steps to be taken to smooth out the cycle).

Status reports should include the following:

1. Most recent software item versions and their status for a system baseline/application
2. Current problems and change requests
3. Audit trail
4. Responsible person for status change

The following list is a useful starting point for the reader to determine what status flags are required in the organization.

Status Flag	Comments/Notes/Relevance
Registered	✓×
Accepted	
Installed	
Withdrawn	
Archived	
Under development	
Testing	
Live/Production	
Misplaced	
Stolen	
Sold	
Donated	
Scrapped	
Other	
Other	

Many support tools will have a pre-defined list of status flags that can be selected for different categories of CI. Review these lists, but think laterally about your own organization.

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VERIFICATION & AUDIT PLAN

IT Services

Verification and Audit Plan
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Verification and Audit Plan for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization. However, the reader will certainly be reminded of the key topics that have to be considered

.

This document serves as a GUIDE ON THE STEPS REQUIRED FOR VERIFICATION AND AUDIT OF CONFIGURATION ITEMS (CIs) for the Configuration Management process. This document provides a basis for completion within your own organization.

This document contains definitions. The document will fuel thoughts about other possible ways to check and verify that the reality matches the expected.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

Regular configuration audits must be carried out to ensure that the information held in the CMDB is consistent with the physical presence of CIs and vice-versa.

Configuration verification and audit

Configuration verification and audits are generally a series of reviews to verify the physical existence of CIs and check that the CIs are correctly recorded in the CMDB and controlled libraries. The checks also include the verification of

release and configuration documentation before changing the live environment.
An initial review is suggested after 3 months after Configuration Management system implementation. However, if a high number of inaccuracies are found then the frequency and intensity of the audits should be increased.

Automated configuration audits increases the efficiency and effectiveness of most audits. Audit tools can determine software installed and identify the major items of hardware configuration. This equates to an increased number of CIs that are exposed to an audit. The primary benefit of automation is it will allow staff to focus on exceptions or “rogue” components without the need to check all the “acceptable” components (rules can be built into the audit tools to report on “rogue” components only).

A Configuration baseline is a “snapshot” of a component or series of components at a specific point in time. The purpose of the baseline is that it allows us to monitor progress or changes to components more carefully. It also provides us with a roll-back point if changes have to be undone at a later stage.

Audits should be performed:

1. Once per time period – Full audit
2. Periodic audits on set components or functional or geographic areas.
3. Before a major release or change (definitely to the specific components that will be affected).
4. Post change to verify planned changes reflect the actual
5. After the implementation of any new Configuration Management system (or upgrade)
6. Post recovery from disasters
7. Occasionally at random intervals
8. Following large scale detection of unauthorized CIs

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CMBD DESIGN DOCUMENT

IT Services

Configuration Management Data Base (CMDB) Design Document
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

CMDB Design Document for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization. However, the reader will certainly be reminded of the key topics that have to be considered.

This document serves as a CHECKLIST FOR TOPICS TO CONSIDER WHEN LOOKING AT THE SELECTION OF AN AUTOMATED TOOL for the Configuration Management process.

This document provides a basis for completion within your own organization.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

Configuration Management Database

Without knowing it there are already many organizations engaged in Configuration Management practices. Most already have some form of crude Configuration Management Data Base (CMDB).
These CMDBs are often spreadsheets, local databases or even paper records regarding IT asset location, owner, cost, etc.
However the growth in size and complexity of IT environments has dictated the need to adopt sophisticated support tools (including a Configuration Management Database (CMDB).

The following checklist will help the reader identify the salient characteristics that are required of a well designed CMDB. Use the list to assess tools being promoted or as a list to put in a tender or request for information when investigating different tools.

The Configuration Management system should provide

Characteristic	Notes/Comments/Relevance
Security controls that will restrict access as appropriate.	
Ability to support and hold information on CI's that have a varying degree of complexity (from entire stand-alone systems (e.g. Mainframe) to simple, single hardware items or software applications and all the associated relationships that are possible between them.	
An ability to use heuristics to create automatic relationships between certain components.	
Ability to easily add, modify or remove components, without undermining the database integrity.	
Automated validation and duplicate avoidance (e.g. inability to use a unique identifier more than once)	
When reviewing changes or incidents the ability to easily identify components that share a relationship with the primary CI being reviewed.	
Tightly coupled link to Problem Management data in	

the CMDB (if the Problem Management data is help in a separate system the CMDB must be able to hook into that system).	
Flow through updates on version numbers following releases, etc.	
History section to allow a review of past events to components (including changes to versions, installation date, RFC's, location changes, etc.)	
Powerful reporting ability, with both pre-defined reports and the ability to create custom reports. Also the ability to perform trending analysis to help facilitate future requirements.	
Based on logical divisions of your organization the ability to display component details by geographic location or functional department or network segment, etc.	
Parent/Child display	

CMDB back-ups, archives and housekeeping

Regular back-ups (combined with secure storage) is an important element of CMDB design. Many databases can grow to an enormous size. The backup of such large databases is in itself a skilled practice that must be well thought out and executed.

Normal backup procedures and practices should apply (e.g. full and differential backups, offsite storage, testing of recoverability, etc.)

Configuration Management naming - Attributes

The following attributes are examples that could be used in the CMDB. Note that hardware CI types will have different attributes from software CI types.

Attribute	Description
CI Name	The unique name by which this type of CI is known.
Copy or Serial Number	The number that uniquely identifies the particular instances of this CI - for example, for software the copy number, for hardware the serial number.
Category	Classification of a CI (e.g. hardware, software, documentation etc).
Type	Description of CI type, amplifying 'category' information (e.g. hardware configuration, software package, hardware device or program module).
Model Number (hardware)	Model of CI (corresponding, for example, to supplier's model number e.g. Dell model xxx, PC/aa model yyy).
Warranty expiry date	Date when the supplier's warranty expires for the CI.
Version Number	The version number of the CI.
Location	The location of the CI, e.g. the library or media where the software CIs reside, the site/room where a service is located.
Owner Responsible	The name and/or designation of the owner responsible for the CI.

Responsibility Date	Date the above owner became responsible for the CI.
Source/supplier	The source of the CI, e.g. developed in-house, bought in from company xxxxx etc.
License	License number or reference to license agreement
Supply Date	Date when the CI was supplied to the organization.
Accepted Date	Date when the CI was accepted by the organization as satisfactorily tested.
Status (current)	The current status of the CI; e.g. under 'test', 'live', 'archived'.
Status (scheduled)	The next scheduled status of the CI (with the date or indication of the event that will trigger the status change).
Parent CI(s) relationships	The unique CI identifier(s) - name/copy/number/model/number/ of the 'parent(s)' of this CI.
Child CI(s) relationships	The unique CI identifier(s) of all 'children' of this CI.
Relationships	The relationship of the CI with all CIs other than 'parent' and 'child' (e.g. this CI 'uses' another CI, this CI 'is connected to' another CI, this CI is 'resident on' another CI, this CI 'can access' another CI).
RFC Numbers	The identification number of all RFC’s affecting this CI.

Change Numbers	The identification number of all Change records affecting this CI.
Problem Numbers	The identification number of all Problem records affecting this CI.
Incident Numbers	The identification number of all Incident records affecting this CI.
Service	He service that the CI forms part of the delivery for.
SLA Number or Name	Any specific SLA's that this CI forms a part of.
UC Number or Name	Any specific UC that this CI forms a part of.
Value - Initial	Initial value of the CI.
Value - Current	Current Value after depreciation.
Security Level	Minimum staff security level for access.
Comment	A comment field to be used for textual narrative; for example, to provide a description of how this version of the CI is different from the previous version.

For RFC's, Change records, package Release records, etc, the names, copy numbers, model numbers and version numbers of CIs affected by the Change, and how they are affected, should be recorded in the CMDB. A reversion path, and the consequences of reversion, should also be recorded.

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COMMUNICATION PLAN

IT Services

Communication Plan
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Communication Plan for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization. However, the reader will certainly be reminded of the key topics that have to be considered.

This document serves as a GUIDE FOR COMMUNICATIONS REQUIRED for the Configuration Management process. This document provides a basis for completion within your own organization.

This document contains suggestions regarding information to share with others. The document is deliberately concise and broken into communication modules. This will allow the reader to pick and choose information for e-mails, flyers, etc. from one or more modules if and when appropriate.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

Initial Communication

Sell the Benefits.

First steps in communication require the need to answer the question that most people (quite rightly) ask when the IT department suggests a new system, a new way of working. WHY?

It is here that we need to promote and sell the benefits. However, be cautious of using generic words. Cite specific examples from your own organization that the reader will be able to relate to (to help develop specific examples contact service@theartofservice.com for competitive quotation).

Generic Benefit statements	Specific Organizational example
CM provides accurate information on our IT components.	This is important because…
Allows us to more carefully control the valuable IT infrastructure.	In recent times our control on IT has…
Helps us to more effectively manage our expenditure on IT.	Apart from the obvious benefits, the IT department in recent times has…
Assists with protecting against illegal or unauthorized software.	A recent example of … saw the individual and the company face severed penalties.

The above Communication module (or elements of) was/were distributed;

To: _____

On: <<date>>

By: _____

On: <<date>>

Configuration Management Goals

The Goals of Configuration Management.

The Goals of Configuration Management can be promoted in the following manner.

- Account for all the IT assets and configurations within the organisation and its services
- Provide accurate information on configurations and their documentation to support all the other Service Management processes
- Provide a sound basis for Incident Management, Problem Management, Change Management and Release Management
- Verify the configuration records against the infrastructure and correct any exceptions.

Always bear in mind the “so what” factor when discussing areas like goals and objectives. If you cannot honestly and sensibly answer the question “so what” – then you are not selling the message in a way that is personal to the listener and gets their “buy-in”.

The above Configuration Goals module was distributed;

To: _____

On: <<date>>

By: _____

On: <<date>>

Configuration Plan

Configuration Management Planning

Certain groups of people will need to know in advance the flow of the activities that can be expected with the process.

- The purpose, scope and objectives of Configuration Management
- Related policies, standards and processes that are specific to the support group
- Configuration Management roles and responsibilities
- CI (Configuration Item) naming conventions
- The schedule and procedures for performing Configuration Management activities: configuration identification, control, status accounting, configuration audit and verification
- Interface control with third parties, e.g. Change Management, suppliers
- Configuration Management systems design, including scope and key interfaces

Remember that any of these individual points can be expanded on as it's own point of communication.

Elements relating to the above activities were presented;

To: _____

On: <<date>>

By: _____

On: <<date>>

Configuration Activities

Intrusive Activities

The list of actions in this module may have a direct impact on end users. They will be curious as to why staff have a sudden interest in what they see as their own IT equipment. Explaining these “intrusive activities” will reduce the surprise (and that will reduce the resistance to co-operate).

Configuration identification

- CIs are the components used to deliver a service. The CIs include software, hardware, documentation and SLAs
- Also identify the relationship between CIs and the attributes for every CI.

Control of CIs

- The objective of configuration control is to ensure that only authorised and identifiable CIs are recorded in the CMDB upon receipt.

Configuration status accounting

Status reports should be produced on a regular basis, listing, for all CIs under control, their current version and Change history. Status accounting reports on the current, previous and planned states of the CIs should include:

- Unique identifiers of constituent CIs and their current status, e.g. 'under development', 'under test', 'live'
- Configuration baselines, Releases and their status
- Latest software item versions and their status for a system baseline/application
- The person responsible for status change, e.g. from 'under test' to 'live'
- Change history/audit trail
- Open Problems/RFCs.

Information regarding intrusive activities was distributed;

To: _____

On: <<date>>

By: _____

On: <<date>>

Configuration Plan

Verification and Audit

Another intrusive activity, but one that must be explained to current and new staff. Audits will be regular. This advice is as much about fore-warning of an audit as it is a chance for certain elements to change behaviours.

Configuration verification and audit
Service Desk staff, while registering incidents, can do daily verification.
Configuration audits should be considered at the following times:

- Shortly after implementation of a new Configuration Management system
- Before and after major Changes to the IT infrastructure
- Before a software Release or installation to ensure that the environment is as expected
- Following recovery from disasters and after a 'return to normal' (this audit should be included in contingency plans
- At random intervals
- In response to the detection of any unauthorised CI
- At regular intervals

News about the Configuration Audit and Verification was distributed;

To: _____

On: <<date>>

By: _____

On: <<date>>

Configuration Plan

Costs

Information relating to costs may be a topic that would be held back from general communication. Failure to convince people of the benefits will mean total rejection of associated costs. If required, costs fall under several categories:

- Personnel – audit verification staff, database management team (Set-up and ongoing)
- Accommodation – Physical location (Set-up and ongoing)
- Software – Tools (Set-up and ongoing)
- Hardware – Infrastructure (Set-up)
- Education – Training (Set-up and ongoing)
- Procedures – external consultants etc. (Set-up)

The costs of implementing Configuration Management will be outweighed by the benefits. For example, many organizations cannot function satisfactorily unless they can handle a high volume of software and hardware Changes without sacrificing quality.

Without adequate control, organizations are at risk from such things as computer fraud, inadvertent software corruption, software viruses and other malicious software. The damage caused by these can be enormous.

Details regarding the cost of Configuration management were distributed;

To: _____

On: <<date>>

By: _____

On: <<date>>

BUSINESS JUSTIFICATION DOCUMENT

IT Services

Business Justification
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Business Justification Document for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization.
However, the reader will certainly be reminded of the key topics that have to be considered.

This document serves as a reference for HOW TO APPROACH THE TASK OF SEEKING FUNDS for the implementation of the Configuration Management process.

This document provides a basis for completion within your own organization.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

Configuration Management Business Justification

A strong enough business case will ensure progress and funds are made available for any IT initiative.

This may sound like a bold statement but it is true. As IT professionals we have (for too long) assumed that we miss out on funds while other functional areas (e.g. Human resources and other shared services) seem to get all that they want.
However, the problem is not with them, it's with US. We are typically poor salespeople when it comes to putting our case forward.

We try to impress with technical descriptions, rather than talking in a language that a business person understands.

For example:

We say	We should say
We have to increase IT security controls, with the implementation of a new firewall.	Two weeks ago our biggest competitor lost information that is now rumored to be available on the internet.
The network bandwidth is our biggest bottleneck and we have to go to a switched local environment.	The e-mail you send to the other national managers will take 4 to 6 hours to be delivered. It used to be 2 to 3 minutes, but we are now using our computers for many more tasks.
Changes to the environment are scheduled for a period of time when we expect there to be minimal business impact.	We are making the changes on Sunday afternoon. There will be less people working then.

Doesn't that sound familiar?

To help reinforce this point even further, consider the situation of buying a new fridge.
What if the technically savvy sales person wants to explain "the intricacies of the tubing structure used to super cool the high pressure gases, which flow in an anti-clockwise direction in the Southern hemisphere".

Wouldn't you say "too much information, who cares – does it make things cold?"
Well IT managers need to stop trying to tell business managers about the tubing structure and just tell them what they are interested in.

So let's know look at some benefits of Configuration Management. Remember that the comments here are generic, as they have to apply to any organization. If you need assistance in writing business benefits for your organization please e-mail service@theartofservice.com for a quotation.

Benefits	Notes/Comments/Relevance
The ability to obtain and provide accurate component information. The Configuration Management process is a cornerstone to other ITIL processes. There are clear links between this process and all others. A well run configuration management process will ensure that the best returns on the investment made in implementation of structured processes is achieved.	
IT components are relatively expensive and constitute a valuable part of the organization's assets. Good control over these assets is as important as good stock control and overall credibility that comes from knowing what we have and where it is.	
In many industries there can be a legal requirement to track assets. Implementing a good CMDB with published regular verification audits will meet most legal obligations that may be imposed on organizations. This is most easily discussed when reviewing software licences and the heavy penalties that can be imposed for illegal use.	

Configuration Management directly contributes towards the ability of the IT department to keep providing IT service following a major outage. The CMDB combined with the DSL helps in the restoration process, by providing configuration information and location of spares, etc.	
Providing assistance to the ongoing task of rolling out new releases, new software, and new applications to the business. Assistance is via information regarding versions, previous changes, location of master copies, etc.	
Aides in improving the security of the organization with respect to IT. This is because changes to CIs can be verified, checked and controlled (helping to reduce accidental or deliberate changes).	
Minimising the amount of “wasted” software, by ensuring maximum use of software purchased. A good Configuration Management process allows us to track our purchases of software against the numbers of users. This information may help to redistribute existing software, rather than simply reacting to a request to purchase.	
Configuration Management provides accurate information regarding the expected environment that a change will impact. With this information testers are able to more accurately predict the likely impact of a change and therefore work to reduce any adverse impact of a change.	
Problem Management relies on trending information that will help to identify “repeat component offenders”. With such information, combined with model numbers, user information, etc. we are able to more quickly get to the real root cause of a problem (using scientific methods, not instinct).	

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REPORTS KPI's & METRICS

IT Services

Reports and KPI Targets
Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Reports and KPI Targets for Configuration Management

The document is not to be considered an extensive statement as its topics have to be generic enough to suit any reader for any organization. However, the reader will certainly be reminded of the key topics that have to be considered.

This document serves as a GUIDE ON SUITABLE KEY PERFORMANCE INDICATORS (KPIs) and REPORTS FOR MANAGEMENT for the Configuration Management process. This document provides a basis for completion within your own organization.

This document contains suggestions regarding the measures that would be meaningful for this process. The metrics demonstrated are intended to show the reader the range of metrics that can be used. The message must also be clear that technology metrics must be heavily supplemented with non-technical and business focused metrics/KPI's/measures.

This document was;	
Prepared by:	_____
On:	<<date>>
And accepted by:	_____
On:	<<date>>

Key performance indicators (KPI's)

Continuous improvement requires that each process needs to have a plan about "how" and "when" to measure its own performance. While there can be no set guidelines presented for the timing of these reviews; the "how" question can be answered with metrics and measurements.

With regard to timing of reviews, factors such as resource availability, cost and "nuisance factor" need to be accounted for. Many initiatives begin with good intentions to do regular reviews, but these fall away very rapidly.

This is why the process owner must have the conviction to follow through on assessments and meetings and reviews, etc. If the process manager feels that reviews are too seldom or too often then the schedule should be changed to reflect that.

Establishing SMART targets is a key part of good process management. SMART is an acronym for:

Simple
Measurable
Achievable
Realistic
Time Driven

Metrics help to ensure that the process in question is running effectively. With regard to CONFIGURATION MANAGEMENT the following metrics and associated targets should be considered:

Configuration Management

Key Performance Indicator	Target Value (some examples)	Time Frame/Notes/Who
Simple count on number of times that a configuration does not match held information	12 per audit 6 per month	
The amount of elapsed time that passes from the approval of a change to the actual implementation of that change.	3 weeks from date of RFC registration, for minor category changes	
The number of components that are identified as “unauthorized”.	0 for Production control 3 for Accounts	
The changing amount of serious incidents, reported to the Help Desk	5% reduction on Category 1 calls over First quarter, next financial year	
Delta in the average time to assess and resolve Service Desk calls using CMDB information.	Average call resolution time to drop from 3 mins. to 2.5 mins. within next 8 weeks	
Breaches to Service Level Agreement that occur as a result of poor or missing information from the closely linked Service Support functions (Configuration, Release, Problem and Service Desk).		
The number of times that a change results in increased incidents and problems.		
The number of times that a change was not completed due to insufficient or incorrect information supplied from the CMDB.		
Absolute value count on the amount of times the CMDB is found to be in error.		
Others		

Reports for Management

Management reports help identify future trends and allow review of the "health" of the process. Setting a security level on certain reports may be appropriate, categorizing the report as Strategic, Operational or Tactical.

The acid test for a relevant report is to have a sound answer to the question; "What decisions is this report helping management to make?"
Management reports for Configuration Management should include:

Report	Time Frame/Notes/Who
Expected growth and capacity statistics	
Details/summaries for non-registered or inaccurately registered IT components (and the steps taken to correct the situation)	
An ability to list information such as the number of registered Configuration Items, along with their version details and other information such as category, status, security level, location, owner, etc.	
Backlog details of process activities work outstanding (along with potential negative impact regarding failure to complete the work in a timely manner) – but also provide solutions on how the backlog can be cleared.	
Simple breakdown of asset categories (e.g. Peripherals (printers, scanners), network equipment (routers, hubs, switches), servers, PC's, etc.)	
Analysis and results of audits completed	
The situation regarding the process staffing levels and any suggestions regarding redistribution, recruitment and training required.	
Human resource reporting including hours worked against project/activity (including weekend/after hours work).	
Financial information for components – to be provided in conjunction with Financial Management for IT Services	

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IMPLEMENTATION & PROJECT PLAN

IT Services

Implementation Plan/Project Plan Skeleton Outline

Process: Configuration Management

Status:	
Version:	0.1
Release Date:	

Planning and implementation for Configuration Management

This document as described provides guidance for the planning and implementation of the Configuration Management ITIL process.

The document is not to be considered an extensive plan as its topics have to be generic enough to suit any reader for any organization.

However, the reader will certainly be reminded of the key topics that have to be considered for planning and implementation of this process.

Initial planning

When beginning the process planning the following items must be completed:

CHECK ☺😐☹ or ✓× or date	DESCRIPTION
	Get agreement on the objective (use the ITIL definition), purpose, scope, and implementation approach (e.g. Internal, outsourced, hybrid) for the process.
	Assign a person to the key role of process manager/owner. This person is responsible for the process and all associated systems.
	Conduct a review of activities that would currently be considered as an activity associated with this process. Make notes and discuss the “re-usability” of that activity.
	Create and gain agreement on a high-level process plan and a design for any associated process systems. NOTE: the plan need not be detailed. Too many initiatives get caught up in too much detail in the planning phase. **KEEP THE MOMENTUM GOING.**
	Review the finances required for the process as a whole and any associated systems (expenditure including people, software, hardware, accommodation). Don’t forget that the initial expenditure may be higher than the ongoing costs. Don’t forget annual allowances for systems maintenance or customizations to systems by development staff.
	Agree to the policy regarding this process

Create Strategic statements.

Policy Statement

The policy establishes the "SENSE OF URGENCY" for the process.

It helps us to think clearly about and agree on the reasons WHY effort is put into this process.

An inability to answer this seemingly simple, but actually complex question is a major stepping stone towards successful implementation

The most common mistake made is that reasons regarding IT are given as the WHY we should do this. Reasons like to make our IT department more efficient are far too generic and don't focus on the real issue behind why this process is needed.

The statement must leave the reader in no doubt that the benefits of this process will be far reaching and contribute to the business in a clearly recognizable way.

Objective Statement

When you are describing the end or ultimate goal for a unit of activity that is about to be undertaken you are outlining the OBJECTIVE for that unit of activity.

Of course the activity may be some actions for just you or a team of people. In either case, writing down the answer to WHERE will this activity lead me/us/the organization is a powerful exercise.

There are many studies that indicate the simple act of putting a statement about the end result expected onto a piece of paper, then continually referring to it, makes achieving that end result realistic.

As a tip regarding the development of an objective statement; don't get caught up in spending hours on this. Do it quickly and go with your instincts or first thoughts – BUT THEN, wait a few days and review what you did for another short period of time and THEN commit to the outcome of the second review as your statement.

Scope Statement

In defining the scope of this process we are answering what activities and what "information interfaces" does this process have.

Don't get caught up in trying to be too detailed about the information flow into and out of this process. What is important is that others realize that information does in fact flow.

For example, with regard to the CONFIGURATION MANAGEMENT process we can create a simple table such as:

Configuration Management Information flows

Process		Process	Information
ConMgt	to	ChangeMgt	Details of affected CIs for an RFC
ChangeMgt	to	ConMgt	Request for information on RFC affected CIs
ConMgt	to	ReleaseMgt	Current version numbers of production software
ReleaseMgt	to	ConMgt	New version numbers for production software
ConMgt	to	ProblemMgt	CI attributes for root cause analysis
ProblemMgt	to	ConMgt	Request for CI attributes

Establish Priorities.

There can be a variety of ways to implement this process. For a lot of organizations a staged implementation may be suitable. For others a "big bang" implementation – due to absolute equality may be appropriate.

In reality however, we usually look at implementation according to pre-defined priorities. Consider the following **options** and then apply a suitable model to your own organization or case study.

Geographical	Functional	Technology	Service
Head office	Accounts	Servers	SAP
Branch office	Administration	Laptops	E-mail
Customer site	Production	Printers	Workflow system
etc	etc	etc	etc
etc	etc	etc	etc

The priority selection has to be made with other factors in mind, such as competitive analysis, any legal requirements, desires of “politically powerful influencers”.

Costs

The cost of process implementation is something that must be considered before, during and after the implementation initiative. The following points and table helps to frame these considerations:

(A variety of symbols have been provided to help you indicate required expenditure, rising or falling expenditure, level of satisfaction regarding costs in a particular area, etc.)

	Initial	During	Ongoing
Personnel Costs of people for initial design of process, implementation and ongoing support	✓	👎	👍
Accommodation Costs of housing new staff and any associated new equipment and space for documents or process related concepts.	😐	☺	☹
Software New tools required to support the process and/or the costs of migration from an existing tool or system to the new one. Maintenance costs			
Hardware New hardware required to support the process activities. IT hardware and even new desks for staff.			

Education Re-education of existing staff to learn new techniques and/or learn to operate new systems.			
Procedures Development costs associated with filling in the detail of a process activity. The step-by-step recipe guides for all involved and even indirectly involved personnel.			

In most cases, costs for process implementation have to be budgeted for (or allocated) well in advance of expenditure. Part of this step involves deciding on a charging mechanism (if any) for the new services to be offered.

Build the team

Each process requires a process owner and in most situations a team of people to assist.

The Configuration Management process is perhaps the process in the Service Support set that has the largest amount of initial and on-going activity.

The team size may or may not reflect this. Of course a lot will be dependant on the timing of the implementation and whether it is to be staged or implemented as one exercise.

Analyse current, in-use systems

Naturally there are many organizations that have many existing tools and systems that form part of this process. It is critical to identify these systems and consider their future role as part of the new process definition.

Examples of areas to review are:

Area	Notes
Power teams	
Current formal procedures	
Current informal procedures	
Current role descriptions	
Existing organizational structure	
Current infrastructure owners	
Existing change management and release management processes	
Spreadsheets, databases and other repositories	
Other…	

Configuration Management plans and design

Quite often planning and design activities for Configuration Management are spread across an organization. For example mainframe environments, networks and desktops used in multiple locations.

In such distributed cases, or even when infrastructure is centralized, responsibilities can be delegated to groups that have specialist skills in a technology or platform. This is especially true when it is not cost effective to train other staff in these specialist areas. In these cases, the process manager retains responsibility for ensuring that plans and overall process design is aligned and moving in the correct strategic direction.

Relationships between the plans should be visible so that staff can understand how their activities fit in context with other planning and designs of the Configuration Management process.

It is important that each plan cross-references and link to other plans. Especially for lower-level (more operational) plans that must link to their upper level strategic "parents". This ensures that duplication is avoided and plans are aligned and reinforce each other.

The Configuration Management plans helps to define the scope of Configuration Management. The plans become the best input for the planning stage.

Examples of areas that may require their own Configuration Plan include:

- Application Maintenance
- Servers and network
- Desktop
- Mainframe

Implementation Planning

After base decisions regarding the scope of the process and the overall planning activities are complete we need to address the actual implementation of the process. It is unlikely that there will not be some current activity or work being performed that would fit under the banner of this process.

However, we can provide a comprehensive checklist of points that must be reviewed and done.

Implementation activities for Configuration Management

Activity	Notes/Comments/Time Frame/Who
Review current and existing Configuration Management practices in greater detail. Make sure you also review current process connections from these practices to other areas of IT Service Delivery.	
Review the ability of existing functions and staff. Can we “reuse” some of the skills to minimize training, education and time required for implementation.	
Establish the accuracy and relevance of current configuration data held in local spreadsheets or databases. As part of this step if any information is credible document the transition from the current system to any new system that is selected.	
Decide how best to select any vendor that will provide assistance in this process area (including tools, external consultancy or assistance to help with initial high workload during process implementation).	

Establish a selection guideline for the evaluation and selection of tools required to support this process area (i.e. the CMDB and automated discovery tools).	
Purchase and install tools required to support this process (i.e. the CMDB and automated discovery tools). Ensure adequate skills transfer and on-going support is considered if external systems are selected.	
Document the information flows from Configuration Management to Change Management, Release Management and other ITIL Service Management processes.	
Establish the CI types, attributes, types of relationships that will be managed in the CMDB.	
Create any required business processes interfaces for this process that can be provided by the automated tools (e.g. reporting – frequency, content).	
Conduct a detailed test of the selected tools. Make sure that time is allowed for fixing any detected errors. Test under different circumstances and think laterally about different situations that could occur and then test them.	
Ensure that known secure storage areas are available and able to accommodate what will be held (consider, fire, theft, heat, humidity, etc.)	
Document and get agreement on roles, responsibilities and training plans	
Communicate with and provide necessary education and training for staff that covers the actual importance of the process and the intricacies of being part of the process itself.	

An important point to remember is that if this process is to be implemented at the same time as other processes that it is crucial that both implementation plans and importantly timing of work is complementary.

The CMDB and Definitive Software Library

Ideally, we would have no changes to the infrastructure while data is being gathered for entry into the CMDB. After information is gathered there should be a permanent strong link between Configuration Management and Change Management.

These two processes, probably more than any share an exceptionally close connection.

An important but often overlooked point is that information regarding Requests for Change should be kept in the CMDB data store. This way it is easier to make links from changes to incidents or problems that may arise as a result of the change.

The Release Management oversees the completion of the Definitive Software Library (DSL). This has to happen at the same time as the CMDB is being filled.

The following issues make it necessary to develop DSL specific procedures:

1. Fully authorized and licensed software only is accepted into the DSL
2. Software is protected (security management) in the DSL
3. Software is only removed or copied by authorized staff.

An important phase of the project is the development of contingency plans in the case of procedural or system failure.

Even though procedures and systems may have undergone extensive testing and sign-off there should be time allowed for unforeseen “go-live” issues.

Cutover to new processes

Once in operation, it is essential that no new items are added to the IT infrastructure without proper authority from the Configuration Management process.

This is only possible when communication and interfaces are properly established. This is one of the key benefits of the ITIL framework (the inter-connection of one process area to all others).

It may be necessary to develop “penalties” for process breaches. This may be done ahead of go-live or left until the nature and extent of any breach is understood (to ensure that we don’t over-react).

Other implementation considerations

In most organizations the rate of Configuration Management implementation should be a gradual exercise. It may be best to start with specific CIs that are easily recognizable, but with low business impact.

This allows the team to practice and develop skills and confidence in the entire process.

FURTHER INFORMATION

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