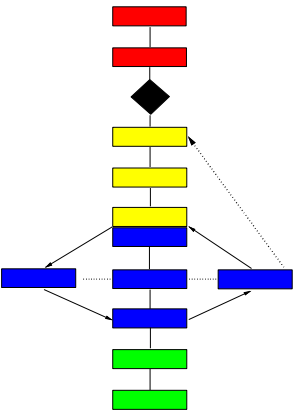


Configuration Management Guide

MITP  
v5.1



Edition Notice  
First Edition (September 1995)

This edition applies to Version C5.0 of Managing the Implementation of the Total Project (MITP), and to all subsequent releases and modifications until otherwise indicated in new editions.

A form for reader's comments appears at the back of this document. If the form has been removed, address your comments to:

**Allturn Group International B.V.**  
Groenendal 7c  
5405 AS Uden (NB) The Netherlands  
Email: [Info@AllturnGroup.com](mailto:Info@AllturnGroup.com)

Phone: 0031 (0) 6 20 35 67 51

When you send information to Allturn Group International, you grant Allturn Group International a nonexclusive right to use or distribute the information in any way appropriate without incurring any obligation to you.

## Table of Contents

Table of Contents .....	3
Preface About This Document.....	4
Who Should Read This Document .....	4
How to Use This Document .....	4
ISO9000 Control Information .....	4
1 Configuration Management Overview .....	5
1.1 Introduction.....	6
1.2 The Nature of Configuration Management .....	6
1.2.1 A Systems Management Professional's View.....	6
1.2.2 A Software Developer's View .....	6
1.2.3 A Project-Wide View.....	6
1.3 Configuration Items.....	7
1.4 Managing Quality and Change.....	8
1.5 Identifying and Planning.....	8
Index .....	9
Readers Comments.....	10

## **Preface About This Document**

This document describes the configuration management technique for managing projects.

For information about the MITP life cycle, the key techniques, and the support techniques, see the MITP Handbook. A glossary of terms can be found at the back of the MITP Handbook

### ***Who Should Read This Document***

The 'you' in this document is the Project Manager, but other people can read and extract useful information from it.

### ***How to Use This Document***

The table of contents provides a clear roadmap to the main topics outlined in this document.

### ***ISO9000 Control Information***

The owner of all MITP Version C5.0 material is Allturn Group International

The MITP Licence applies to the current version only. Future revisions, which are under version number control, may be made available under upgrade licence terms from Allturn Group International. The current licence does not cover upgrades.

# **1 Configuration Management Overview**

## Subtopics

- 1.1 Introduction
- 1.2 The Nature of Configuration Management
- 1.3 Configuration Items
- 1.4 Managing Quality and Change
- 1.5 Identifying and Planning

## **1.1 Introduction**

Configuration management is a well-established technique for managing a project.

It has achieved high prominence within the public sector, and is an engineering discipline in its own right. Proposals often have to demonstrate capabilities in configuration management as well as risk management, for they are both critical success factors in projects.

## **1.2 The Nature of Configuration Management**

Configuration management seems to mean different things to different people.

### **1.2.1 A Systems Management Professional's View**

Configuration management is the means of recording what hardware with what features has been installed in each location, and what software, including versions and releases, resides on each 'box'. Relevant, in other words, to the roll-out stage of a project.

### **1.2.2 A Software Developer's View**

This view is inevitably tool-related. It is, for example, the means by which configuration management version control (CMVC) or other software tools help to control access and updates to program libraries. In this case, configuration management is relevant to the testing and subsequent phases of a software development project, but not to earlier phases including requirements and design.

### **1.2.3 A Project-Wide View**

Configuration management can be defined in a broader sense as the control of the evolution of a product within a project. It starts at the time of planning the key deliverables. configuration items (CIs) are identified for the development phases of the product or system, and for the constituent parts of the final deliverables to users. The interrelationships of the CIs are defined at this time.

For example, in a systems development project a statement of user requirements, a subsystem design specification, and a functional test plan, could all be identified as CIs that are part of the evolution of the first system release.

The remainder of this document takes this broader view.

### **1.3 Configuration Items**

The prime characteristic of a CI is that it is detailed enough and stable enough to act as the basis for the control of changes. At any phase in the development of the system or product, a CI or group of related CIs, plus all accepted changes, will act as the baseline. Thus, there will be a requirements baseline, a design baseline, and, ultimately, the CIs for the components making up a release, plus associated documents, for example, installation instructions and training manuals, will make up the installation baseline.

An implication of this is that all CIs will have gone through a quality control process before becoming part of the configuration management process and, in configuration management terminology, under configuration control.

A concept used in connection with CIs is that of transformation. For example, the deriving of a functional specification from a user requirements document. The CI plan established at the start of the project will, in effect, create a roadmap showing how each CI will be used as the means of deriving other CIs further down the development chain. This gives rise to two aspects of configuration management as a formal technique:

- Traceability (tracking backwards):  
For example, the process used to ensure that all relevant elements of a functional specification are catered for, or have been transformed into the appropriate design document.
- Change impact analysis (tracking forwards):  
Ensuring that, where a change applies to any CI, its impact on all derived CIs is understood.

An extension to the concept of configuration management for the control of product-related deliverables is that of management configuration items. For example, a set of related project plans can be baselined and risks with agreed impacts and probabilities and committed containment plans could also be classed as CIs.

Many Project Managers recognize configuration management to be part of what they already do - during planning, within the quality process, and, especially, within change control. Nonetheless, there are many advantages in using it as a formal technique for controlling the evolution of a system or product, and ensuring that, when implemented, changes will work together as a coherent whole. For example:

- Configuration management can add clarity and structure to the processes for planning and managing the quality of project deliverables. It can help to define the quality criteria, including conformance to the CIs from which they were derived, and the means by which their quality is to be assessed. In a large project, formal configuration audits can be carried out to ensure the quality and acceptability of the final contractual deliverables.
- Configuration management can provide a means of improving the definition of the baselines against which all change requests are assessed, and can help in the process of distinguishing between those requests described as clarifications of requirements that have no impact on the project, and those that do.
- The identification of a full set of CIs and their interrelationships can add rigor to the process of understanding the impact of a change before taking a decision on it, and to the process of planning and carrying out the implementation of an accepted change. This will help to prevent changes from being underestimated and inadequately implemented.

## **1.4 Managing Quality and Change**

Configuration management helps to manage quality and change. It therefore affects everyone involved with the project, including the business. On a day-to-day basis, however, the main focus is likely to be its use to control the implementation of accepted changes, including the ability to record and report on the history and status of deliverables and their changes.

In a large project, the role of a configuration librarian will become increasingly important, within a Project Office or, for a large software development project, within the software development group.

Project members responsible for problem management will clearly need to work closely with those responsible for configuration management - in some cases the same software tools will support both processes.

## **1.5 Identifying and Planning**

Identifying and planning the CIs and their interrelationships at the start of a project is an excellent way to help define how all the different sections of a project team will work together. For all deliverables, including intermediate and noncontractual deliverables, it prompts the questions like, Who owns this? Where has it come from? How will it be used? Who will use it? And, in some cases - Do I need it? Two circumstances where this is particularly relevant are:

1. Where more than one supplier will be used, each with different standards and methods of working, but whose deliverables are part of the process of building and delivering an integrated solution.
2. Where innovative methods are to be used as part of the steps in delivering and supporting an IT solution.

Clearly, the details of how configuration management will be implemented depends largely on:

- The size and complexity of the project, and the degree of change expected
- The characteristics of any support tool to be used.

Irrespective of this, a good principle is that you should integrate configuration management as far as possible with standard MTP techniques. For example, the project definition can be the first phase in the identification of CIs, and the chosen CIs should be clearly related to the work breakdown structure, especially at the component level. In addition, configuration management will contribute to the processes for assessing the quality of deliverables, the implementation of individual changes, and the coordination of concurrent changes.



## Index

### B

baselines 1.3

### C

change impact analysis 1.3

configuration audit 1.3

configuration item (CI) 1.2.3

configuration librarian 1.4

critical success factor 1.1

### D

design baseline 1.3

### I

identification and planning of CIs 1.5

installation baseline 1.3

intended audience PREFACE

ISO9000 control information PREFACE

### P

project-wide perspective 1.2.2

### Q

quality and change management 1.4

### R

requirements baseline 1.3

### S

software developer's perspective 1.2.1

systems management perspective 1.2.1

### T

traceability 1.3

transformation 1.3

## Readers Comments

MITP  
Configuration Management Guide  
Version C5.0

Publication No. MICG1CFG

**Overall, how satisfied are you with the information in this book?**

Legend:

- 1 Very satisfied
- 2 Satisfied
- 3 Neutral
- 4 Dissatisfied
- 5 Very dissatisfied

	1	2	3	4	5
Overall satisfaction					

**How satisfied are you about the information this book contains:**

	1	2	3	4	5
Accurate					
Complete					
Easy to find					
Easy to understand					
Well organized					
Applicable to your task					

**Please tell us how we can improve this book:**

**Allturn Group International B.V.**  
Groenendal 7c  
5405 AS Uden (NB) The Netherlands  
Email: [Info@AllturnGroup.com](mailto:Info@AllturnGroup.com)

Phone: 0031 (0) 6 20 35 67 51

Name ..... \_\_\_\_\_  
Company or Organization \_\_\_\_\_  
Address ..... \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Phone No. .... \_\_\_\_\_  
\_\_\_\_\_