Australian Government

Department of Education, Employment and Workplace Relations

ICAB4076B Implement configuration management

Release: 1

ICAB4076B Implement configuration management

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to implement administrative and technical procedures throughout the software development and documentation life cycle. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

Application of the unit	

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		
	ICAD4217B	Create Technical Documentation

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and clarify configuration management requirements	1.1. Develop and/or assemble identification standards for the naming and version control of ***software*** and ***documentation***, and provide to ***stakeholders*** 1.2. Identify the ***software configuration tools*** and procedures for the required level of integration into the programming environment 1.3. Identify responsibilities for configuration management within the project and for ongoing support, including approval of changes 1.4. Take action to ensure that ***stakeholders*** are aware of their roles 1.5. Identify the point at which items are subjected to configuration control with ***stakeholders***
2. Employ appropriate control mechanisms	2.1. Identify and document the method for identification and recording of change requests in line with ***organisational requirements*** and ensure this is maintained during development process 2.2. Take action to ensure that the evaluation criteria and process for approval of change requests are employed according to ***organisational requirements*** 2.3. Take action to ensure that other management, security and access control criteria are employed according to ***organisational requirements*** 2.4. Implement controls to ensure that necessary audit trials and alerts for variations or non-conformance are continuously maintained during development
3. Implement monitoring mechanisms	3.1. Implement controls to ensure that mechanisms to identify the status of ***software*** throughout the software development life cycle are continuously maintained 3.2. Document the development and maintenance of records and status reports required to show the history of baselines and their links to back-ups 3.3. Take action to ensure that the level of detail required in the status reports, and identification of target audiences, meets the configuration management procedures, ISO/IEC/AS standards and ***organisational requirements*** 3.4. Integrate configuration management into general project management processes for monitoring and control purposes and document

ELEMENT	PERFORMANCE CRITERIA
4. Manage release of product	4.1. Take action to ensure the physical and functional completeness of items for the purpose of release to all ***stakeholders***
	4.2. Identify and implement the ***requirements*** for formal control of ***software*** products
	4.3. Determine and document policies for retention of baseline/master copies, taking into account safety and security, legislative requirements and ***organisational guidelines***

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- Configuration management involves problem solving skills involving participation in the development of configuration management (e.g. when the point when items are subjected to configuration control is identified with developers and team members)
- Plain English literacy and communication skills in relation to developing technical and business reports
- Group facilitation and presentation skills in relation to transferring and collecting information and gaining consensus on concepts (e.g. when responsibilities for configuration management within the project and for ongoing support, including approval of changes are identified and responsible parties are aware of their roles)
- Project planning skills in relation to scope, time, cost, quality, communications and risk management (e.g. when the physical and functional completeness of items for the purpose of release is determined with developers and team members)
- Research skills for identifying, analysing and evaluating broad features of a particular business domain and best practice in software development methodologies (e.g. when the requirements for formal control of software products and documentation are identified and implemented)
- Estimating skills for use across a range of predictable project contexts in relation to either varied or highly specific functions (e.g. when the development and maintenance of records and status reports required to show the history of baselines, and their links to back-ups are documented)
- Function point analysis skills for use across a range of predictable project contexts in relation to either varied or highly specific functions (e.g. when configuration management is integrated into general project management processes for

REQUIRED SKILLS AND KNOWLEDGE
monitoring and control purposes)
Required knowledge
• Detailed knowledge of software development methodologies (e.g. when identifying and clarifying configuration management requirements • Detailed knowledge of quality assurance and quality processes (e.g. when implementing monitoring mechanisms • Broad knowledge of project planning methodologies and tools • Detailed knowledge of benchmarking methodologies (e.g. when implementing monitoring mechanisms • Detailed knowledge of how to formulate software size models and size estimates (e.g. when employing control mechanisms)

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • Assessment will confirm knowledge of quality processes, audit trails and version control. • Assessment will confirm the ability to implement and maintain reliable and valid configuration management procedures for technical and administrative procedures for use during the software life cycle. To demonstrate competency in this unit the person will require access to: • Configuration tools • Evaluation criteria • Process for approval of change requests • Templates for status reports
Context of and specific resources for assessment	Implementation of configuration management will usually include observation of real or simulated work processes and procedures, the results of previous configuration projects may be used to assist in understanding configuration management in a global context. The breadth, depth and complexity of knowledge and skills in this competency would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance would be involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature. Assessment must ensure: • Performance of a broad range of skilled applications

EVIDENCE GUIDE	
	including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills would be characteristic. • Applications may involve responsibility for, and limited organisation of, others.
Method of assessment	The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1. • Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. • Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. An individual demonstrating this competency would be able to:

EVIDENCE GUIDE	
	• Demonstrate understanding of a broad knowledge base incorporating some theoretical concepts • Apply solutions to a defined range of unpredictable problems • Identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas • Identify, analyse and evaluate information from a variety of sources • Take responsibility for own outputs in relation to specified quality standards • Take limited responsibility for the quantity and quality of the output of others • Maintain knowledge of industry products and services To demonstrate this unit of competency the following should be addressed: • Track changes to all software components • Support parallel development of different components • Control the entire project and its evolution over time (e.g. releases and variants) • Manage the approval of changes (e.g. promotion process)

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Documentation may follow:	• ISO/IEC/AS standards • audit trails • naming standards • version control

RANGE STATEMENT	
	• project management templates • report writing principles
Stakeholders may include:	• sponsor • user • development team • management • testers • project team
Requirements may be in reference to:	• business • system • application • network • people in the organisation
Organisational requirements may include but is not limited to:	• how and what the organisation wants in regard to work environment • problem solution processes • preventative maintenance and diagnostic policy, roles and technical responsibilities in the IT department • vendor and product service-level support agreements
Software may include but is not limited to:	• commercial software applications • organisation-specific software • packaged software • in-house or customised software
Software configuration tools may include:	• PVCS Version Manager • PVCS Version Manager PLUS • PVCS Configuration Builder • Version Stamper • Baseline +Plus • Version +Plus • ClearCase • Continuus/CM • SCCS • RCS • Source Integrity • TeamWare • CVS
Organisational guidelines may	• personal use of emails and internet access • content of emails

RANGE STATEMENT	
include but is not limited to:	• downloading information and accessing particular websites • opening mail with attachments • virus risk • dispute resolution • document procedures and templates • communication methods • financial control mechanisms

Unit Sector(s)

Unit sector	Build

Co-requisite units

Co-requisite units		

Competency field

Competency field	