Australian Government

Department of Education, Employment and Workplace Relations

ICANWK515A Develop configuration management protocols

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICANWK515A Develop configuration management protocols

Modification History

Release	Comments
Release 1	This Unit first released with *ICA11 Information and Communications Technology Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to develop administrative and technical procedures throughout the life cycle of a system, network, software and documentation project.

Application of the Unit

This unit applies to individuals working in a variety of information and communications technology (ICT) areas who are required to develop and manage tasks that facilitate the development of a system, such as version control and naming standards.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
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

1. Establish configuration management requirements	1.1 Establish identification *standards* for naming and version control of *system*, *network*, *software* and *documentation* to align with organisational needs
	1.2 Establish tools and procedures for the required level of integration into the programming, system or network environment
	1.3 Determine responsibilities for configuration management within the *project* and for ongoing support, including approval of changes
	1.4 Determine the appropriate points for configuration of particular items
2. Establish control mechanisms	2.1 Establish methods for identification and recording of change requests in line with *organisational guidelines*
	2.2 Establish *acceptance criteria*, *test and acceptance processes* and processes for approval of change requests in line with organisational guidelines
	2.3 Establish security, access and management control criteria and *quality benchmarks*
	2.4 Determine necessary audit trails and alerts for variations or non-conformance
3. Establish monitoring mechanisms	3.1 Establish mechanisms to identify software status throughout the software life cycle, or the status of the system or network during upgrading or reconfiguration
	3.2 Determine management of records and status reports, including the history of baselines and their links to backups
	3.3 Define target audiences and determine the level of detail required in the status reports
	3.4 Integrate configuration management into general project management processes for monitoring and control purposes
	3.5 Document control and monitoring mechanisms
4. Manage the release of the product to clients	4.1 Determine physical and functional completeness of items prior to release
	4.2 Determine requirements for formal control of software products and documentation
	4.3 Determine policies for retention of baseline and master copies in line with safety, security and legislative requirements and organisational guidelines

Required Skills and Knowledge

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

Required skills

- communication skills to:
    - facilitate groups
    - present information and gain consensus on concepts
- literacy skills to:
    - develop administrative procedures for integration
    - identify legislative and organisational requirements
    - identify target groups
    - write technical and business reports
- planning and organisational skills to:
    - determine responsibilities for configuration management
    - determine scope, time, cost, quality, communications and risk management for a project
    - estimate function point analysis and other skills for use across a range of predictable project contexts, either varied or highly specific
    - integrate configuration management into general project management processes for monitoring and control purposes
- problem-solving skills to develop strategic initiatives
- research skills to specify, analyse and evaluate broad features of a particular business domain and best practice in software development methodologies
- technical skills to develop technical procedures.

Required knowledge

- benchmarking methodologies
- configuration management
- control mechanisms, such as acceptance criteria, test and acceptance processes, and security, access and management control criteria
- monitoring mechanisms
- organisational guidelines
- project planning methodologies and tools
- quality assurance and quality processes
- safety, security and legislative requirements
- software development methodologies.

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 ability to:
	
	• develop technical and administrative procedures for use during the software life cycle, system or network reconfiguration or the upgrade process, including:
	   • quality processes
	   • audit trials
	   • version control
	   • configuration management procedures.

Context of and specific resources for assessment	Assessment must ensure access to: • CASE tools • future organisational business processes • organisational standards for documentation and version control • project budget and timeframe • project-management process and hierarchy • legislation and organisational guidelines • technical specifications • test plans • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct observation of candidate determining the tools and procedures for integration • verbal or written questioning to assess candidate's knowledge of control and monitoring mechanisms • review of requirements for formal control of software products and documentation determined by candidate • evaluation of candidate's documented control and monitoring mechanisms.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.

	Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.
	Indigenous people and other people from a non-English speaking background may need additional support.
	In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.

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.

Standards may include:	• International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) • organisational • project.
System may include:	• application service provider (ASP) • applications • databases • gateways • internet service provider (ISP) • operating systems • servers.
Network may include:	• data • large and small local area networks (LANs) • private lines • internet • use of the public switched telephone network (PSTN) for dial-up modems only • virtual private networks (VPNs) • voice • wide area networks (WANs).
Software may include:	• commercial • customised • in-house • packaged.
Documentation may follow:	• audit trails • client training and satisfaction reports • ISO, IEC and AS standards • maintaining equipment inventory • naming standards • project-management templates and report writing • version control.
Project may include:	• business improvement process • ebusiness solution involving the total organisation or part of

	the organisation • systems-only change • total organisational change.
Organisational guidelines may include:	• communication methods • content of emails • dispute resolution • document procedures and templates • downloading information and accessing particular websites • financial control mechanisms • opening mail with attachments • personal use of emails and internet access • virus risk.
Acceptance criteria may include:	• cost implications • technical and logistical considerations • timeframe.
Test and acceptance processes may vary according to:	• AS4006-1992 Software test documentation • International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) that are updated and changed on a regular basis • size and type and scope of the project.

Quality benchmarks may include:	• benchmarks that cover:
	  • cost savings
	  • performance
	  • quality
	  • technical matters
	• documented standards for addressing quality in quality-certified organisations
	• international and Australian standards that are updated and changed on a regular basis, including:
	  • AS3925.1-1994 Software quality assurance - plans
	  • AS4042-1992 Software configuration management plans
	  • AS4043-1992 Software configuration management
	  • AS/NZS14102:1998 Information technology - guideline for evaluation and selection of computer-aided software engineering (CASE) tools
	  • AS/NZS4258:1994 Software user documentation process
	  • AS/NZS ISO/IEC 12207:1997 Information technology - Software life cycle processes.

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Unit Sector(s)

Networking

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