



Australian Government

Department of Education, Employment and Workplace Relations

ICTTEN7219A Manage alignment of systems with product and technology strategy

Release: 1

ICTTEN7219A Manage alignment of systems with product and technology strategy

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop a technology roadmap and interface management system to align and integrate systems with a product and technology strategy. Strategic alignment involves the development and reconfiguration of system integration elements in a dynamic environment. The activity may be for new products in emerging technologies for convergence to Next Generation Networks (NGN) solutions. 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.
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Application of the Unit

Application of the unit	Technical staff in a planning and product development role who align support systems with a product and technology strategy apply the skills and knowledge in this unit. They may make use of third party software test routines and testing hardware to measure network performance according to manufacturer's and design specifications.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop technology roadmap	1.1. Analyse market research information and determine customer needs within the product and technology strategy from a technology roadmap 1.2. Evaluate enterprise and technology issues which will affect the design of the system and translate them into system requirements 1.3. Evaluate the programme, product and technology needs that affect the definition of the system lifecycle 1.4. Develop systems integration, verification and validation plans from the design requirements 1.5. Develop and communicate key aspects on the implementation of the technology roadmap to stakeholders and customers
2. Develop interface management of system elements	2.1. Determine system element interfaces and the sources of complexity for the interface management of the system 2.2. Develop a process and appropriate techniques to be adopted for the interface management of system elements 2.3. Produce a control process of the system element interfaces of the management system 2.4. Liaise and arbitrate where there are conflicts in the definition of interfaces
3. Implement systems integration	3.1. Evaluate suitability of system integration, verification and validation plans for the product and technology strategy of the technology road map for a consumer product 3.2. Develop systems integration, verification and validation plans for complex systems, including the method and timing for each activity 3.3. Manage system integration plan and diagnose complex faults 3.4. Document fault conditions, report to appropriate person and follow up corrective actions 3.5. Prepare evidence for customer acceptance and certification of the system integration management plan for the consumer product 3.6. Plan and manage a transition to operational activity of the product

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- analytical skills to evaluate product and technology needs
- communication skills to:
 - interact with enterprise personnel, customers and other contractors, while maintaining a customer focus and consideration of customer needs
 - liaise with internal and external personnel on technical and operational matters
- literacy skills to:
 - prepare reports given a specific format
 - read and interpret technical documentation, software and hardware manuals, specifications and relevant enterprise policy
- numeracy skills to take and analyse measurements
- PC skills to use a word processor to translate enterprise and technology issues into system requirements
- planning and organisational skills to:
 - break large projects into a series of small projects
 - manage and prioritise own work
 - organise testing
- problem solving skills to resolve software, hardware and logistics problems
- safety awareness skills to follow all related occupational health and safety (OHS) requirements and work practices
- task management skills to work systematically with required attention to detail and adherence to project requirements
- technical skills to:
 - develop systems integration, verification and validation plans for complex systems
 - document fault conditions
 - manage systems integration

Required knowledge

- enterprise and technology issues
- integration, verification and validation plans
- interface management systems
- legislation, codes of practice and other formal agreements that directly impact on system integration
- specific OHS requirements that impact on activity in terms of safety of self and public safety
- system element interfaces

REQUIRED SKILLS AND KNOWLEDGE
• system integration solutions techniques • system life cycles • technology roadmaps

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 ability to: - plan the implementation and testing of new system requirements, including system functionality and performance under load conditions - manage the interface elements of a new system - implement systems integration - recognise potential causes of problems and impact on service levels - analyse impact of integration of system changes on the network - prepare evidence for customer acceptance and certification of the system integration.
Context of and specific resources for assessment	Assessment must ensure: - site where the alignment of computer support systems with a product and technology strategy may be conducted - software tools currently used in industry - vendor products, specifications, equipment and enterprise policy required for the activity.
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 the candidate implementing system integration - direct observation of the candidate performing a systematic approach to test and analysis of problems arising - review of test regime, test results with interpretation and improvement recommendations prepared by the candidate - oral or written questioning of the candidate to assess required knowledge.
Guidance information for	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,

EVIDENCE GUIDE**assessment**

for example:

- ICTTEN7220A Translate domain and solution architectures into platform requirements and designs.

Aboriginal people and other people from a non-English speaking background may have second language issues.

Access must be provided to appropriate learning and assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed.

In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency.

Where applicable, physical resources should include equipment modified for people with special needs.

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.

Technology roadmap refers to a plan that:

- applies to a new product or process, or an emerging technology
- matches short term and long term goals with specific technology solutions to help meet those goals
- provides a framework to help plan and coordinate technology developments

RANGE STATEMENT	
	provides a mechanism to help forecast technology developments.
Enterprise and technology issues may include:	- communication and interoperability issues - distributed enterprise applications - technologies deployed - vendors selected as partners.
Integration, verification and validation plans may relate to:	- acceptance testing - specific testing methods - specific test schedules - taking multiple integrated systems that have passed system testing as input and tests their required interactions - testing process that exercises a software system's coexistence with others.
System element may include:	- contractual relationship - customer relationship - development relationship - hierarchical relationship.
Sources of complexity may include:	- different domains - multinational programmes - multiple suppliers - novel technology.
System element interfaces may include:	- requirements posed on the system element - services to be provided by the system element - specified connected devices/interfaces - system elements that can support several interfaces.
Systems integration may include:	- combining component subsystems into one system and ensuring that the subsystems function together as a system - process of linking together different computing systems and software applications physically or functionally.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Telecommunications networks engineering
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