



Australian Government

ICTTEN804 Manage end to end architectural solutions across multiple domains

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to analyse business options and design for network infrastructure service providers and implement end-to-end architectural solutions.

It applies to individuals with excellent technical, communication and planning skills working in project management roles with authority to direct installation activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Evaluate tools and techniques for architectural design	1.1 Apply principles of architectural design within the life cycle of application software 1.2 Develop a process to apply appropriate tools and techniques for architectural design of end-to-end solutions 1.3 Evaluate and select appropriate analysis and selection techniques to develop a partition between discipline technologies and derive discipline-specific requirements
2. Analyse design options for optimal solutions	2.1 Critically analyse business options to support architectural design trade-offs for an optimal design solution 2.2 Develop alternative architectural designs traceable to the

ELEMENT	PERFORMANCE CRITERIA
	requirements 2.3 Evaluate a range of architectural solutions and justify selection of the optimum solution
3. Develop interface requirements for effective solutions across multiple domains	3.1 Evaluate system element interfaces and sources of complexity for interface management of the system across multiple domains 3.2 Develop a process and appropriate techniques to be adopted for the interface management of system elements for end-to-end architectural solutions 3.3 Produce a control process for system element interfaces of the management system 3.4 Liaise and arbitrate between stakeholders where there are conflicts in the definition of interfaces
4. Manage end-to-end systems integration	4.1 Evaluate suitability of system integration, verification and validation plans for end-to-end architectural solutions across multiple domains 4.2 Develop systems integration, verification and validation plans for complex systems to ensure a viable integration process 4.3 Manage system integration plan and diagnose complex faults 4.4 Document fault conditions, report to appropriate person and follow up corrective actions 4.5 Prepare evidence for customer acceptance and certification of the system integration management plan 4.6 Plan and manage a transition to operational activity for the end-to-end solution
5. Incorporate components of an architecture from a third party	5.1 Negotiate with vendor for acceptable vendor agreements and agreed roles and responsibilities of each party 5.2 Manage vendor within a clearly defined process for dealing with defects and scope changes 5.3 Plan beyond delivery of specific elements and establish requirements for ongoing maintenance and support from vendor
6. Manage requirements for the architecture solution	6.1 Negotiate minimum component costs with vendors and analyse vendor component costs as part of assessment for the appropriateness of vendor's quote 6.2 Manage vendor selection process to provide high-quality solutions within appropriate costings

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	2.1	Organises, evaluates and interprets a range of complex documentation to evaluate product and technology needs
Writing	2.2, 2.3, 3.3, 4.2, 4.4, 4.5	Prepares clear and concise workplace documentation including reports and designs incorporating technical language to communicate complex information clearly and effectively
Oral Communication	3.4, 4.4, 5.1, 5.2, 6.1	- Participates in verbal exchanges with key personnel, customers and contractors using appropriate tone and clear language - Uses listening and questioning skills to confirm understanding
Interact with others	3.4, 4.4, 5.1, 5.2, 6.1	- Selects and uses appropriate conventions and protocols when communicating with customers, vendors or technical personnel in a range of work contexts - Collaborates and negotiates to achieve agreeable outcomes in potentially contentious situations
Numeracy	6.1	Interprets numerical information to determine best value-for-money solutions according to business requirements
Get the work done	1.1-1.3, 2.1, 2.3, 3.1, 3.2, 4.1, 4.3, 4.4, 4.6, 5.3, 6.2	- Uses a combination of formal, logical planning processes and an increasingly intuitive understanding of context for complex, high-impact activities with strategic implications - Demonstrates a sophisticated understanding of principles, concepts, language and practices associated with the digital world and uses these to plan complex systems - Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information and identifying and evaluating options against agreed criteria - Uses formal analytical and lateral thinking techniques for diagnosing problems and generating and evaluating possible solutions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN804 Manage end to end architectural solutions across multiple domains	ICTTEN7221A Manage end to end architectural solutions across multiple domains	Updated to meet Standards for Training Packages. Recoded and minor changes to PC's to meet AQF requirements.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTTEN804 Manage end to end architectural solutions across multiple domains

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Performance Evidence

Evidence of the ability to:

- evaluate tools and techniques for architectural design
- analyse design options for optimal solutions
- develop interface requirements for effective solutions across multiple domains
- manage end-to-end systems integration
- incorporate components of a third party architecture
- manage requirements for the architecture solution.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- provide a detailed summary of architectural design tools
- explain interface management
- outline management of end-to-end system integration
- summarise new end-to-end architecture design solutions
- explain solutions for business options across multiple domains
- outline system integration solution techniques
- summarise system interfaces
- explain validation plans
- explain importance of vendors' agreements with specific reference to roles and responsibilities of each party
- identify and quantify components' costs.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the Telecommunications – Telecommunications Networks Engineering field of work and include access to:

- a site where architecture solutions across multiple domains can be managed
- simulation software tools currently used in industry
- vendor products, specifications, equipment and enterprise policy required for the activity.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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