



Australian Government

ICTTEN820 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 7.0.

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 required tools and techniques for architectural design of end-to-end solutions 1.3 Evaluate and select required analysis and selection techniques to develop a partition between discipline technologies and acquire discipline-specific requirements
2. Analyse design options for optimal solutions	2.1 Analyse business options to support architectural design trade-offs for an optimal design solution 2.2 Develop alternative architectural designs traceable to the requirements 2.3 Evaluate a range of architectural solutions and justify selection of

ELEMENT	PERFORMANCE CRITERIA
	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 required 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 confirm a viable integration process 4.3 Manage system integration plan and diagnose complex faults 4.4 Document fault conditions, report to required 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 assess vendor component costs 6.2 Manage vendor selection process to provide high-quality solutions within required costings

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
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SKILL	DESCRIPTION
Numeracy	Interprets numerical information to determine best value-for-money solutions according to business requirements
Oral communication	- Participates in verbal exchanges with relevant personnel, customers and contractors using required tone and clear language - Uses listening and questioning skills to confirm understanding
Reading	Organises, evaluates and interprets a range of complex documentation to evaluate product and technology needs
Writing	Prepares workplace documentation including reports and designs incorporating technical language to communicate complex information clearly and effectively
Teamwork	- Selects and uses required 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
Planning and organising	Uses a combination of formal, logical planning processes and an understanding of context for complex, high-impact activities with strategic implications
Problem solving	- Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering required 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
Technology	Demonstrates a sophisticated understanding of principles, concepts, language and practices associated with the digital world and uses these to plan complex systems

Unit Mapping Information

Supersedes and is equivalent to ICTTEN804 Manage end to end architectural solutions across multiple domains.

Links

Companion Volume Implementation Guide is found on VETNet -

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