



Australian Government

ICTTEN820 Manage end to end architectural solutions across multiple domains

Release: 1

ICTTEN820 Manage end to end architectural solutions across multiple domains

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>

Assessment Requirements for ICTTEN820 Manage end to end architectural solutions across multiple domains

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- manage at least two end-to-end architectural solutions across multiple domains.

In the course of the above, the candidate must:

- evaluate tools and techniques for at least two architectural designs
- analyse design options for optimal solutions
- develop interface requirements for effective solutions across multiple domains
- incorporate components of third-party architecture.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- required legislation, codes, company work practices, regulations and standards, workplace health and safety (WHS) requirements for scoped work
- architectural design tools
- interface management
- management of end-to-end system integration
- new end-to-end architecture design solutions
- solutions for business options across multiple domains
- system integration solution techniques
- system interfaces
- validation plans
- importance of vendors' agreements with specific reference to roles and responsibilities of each party
- methods to calculate components' costs.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes 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 of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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