



Australian Government

Department of Education, Employment and Workplace Relations

ICAI4251A Implement and evaluate network and telecommunication security

Release: 1

ICAI4251A Implement and evaluate network and telecommunication security

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit defines the competency required for the application of the principles, policies, and procedures involved in ensuring the security of basic network services and data and in maintaining the hardware layer on which it resides. These practices address perimeter defence strategies, defence-in-depth strategies, and data encryption techniques.</p> <p><i>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</i></p>
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		
	ICAS4124B	Monitor and administer network security
	ICAS4119B	Monitor and administer system security

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. Implement network and telecommunication security	1.1. Prevent and detect intrusions and protect against viruses 1.2. Perform audit tracking and reporting 1.3. Create, develop, apply, control, and manage effective network domain security controls in accordance with <i>organisation policies</i> 1.4. Test strategic network security technologies for effectiveness; incorporate controls that ensure compliance with the <i>organisation policies</i> 1.5. Ensure that messages are confidential and free from tampering and repudiation 1.6. Defend network communications from tampering and/or eavesdropping
2. Assess vulnerabilities and respond	2.1. Gather technical data and monitor and assess network vulnerabilities 2.2. Correct network security vulnerabilities in response to problems identified in vulnerability reports 2.3. Provide real-time network intrusion response
3. Evaluate network and telecommunication security	3.1. Perform a network security evaluation, calculate risks to the enterprise, and recommend remediation activities 3.2. Arrange <i>independent</i> verification and validation of the network to assess full satisfaction of functional requirements 3.3. Compile data into measures for analysis and reporting

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
<ul style="list-style-type: none"> • Plain English literacy and communication skills in relation to dealing with clients and team members (e.g. when asset/inventory recording documentation is completed in line with organisational requirements) • Report writing skills for business requiring depth in some areas, analysis and evaluation of information in a defined range of areas (e.g. when procedures are developed to ensure regular network reporting and administration in accordance

REQUIRED SKILLS AND KNOWLEDGE

with organisational policies and procedures)

- Questioning and active listening skills in relation to clients and team members (e.g. when impact of the changes being implemented is conveyed to users)
- Project planning skills
- Problem solving skills for a defined range of unpredictable problems

Required knowledge

- Current industry-accepted hardware and software products, with broad knowledge of features and capabilities
- Broad knowledge of the client business domain, business function and organisation (e.g. when implementing multiple servers)
- Broad knowledge of networking technologies, with substantial depth in some areas
- Broad knowledge of OH&S requirements in relation to work safety, environmental factors and ergonomic considerations
- Broad knowledge of supporting documentation systems (e.g. when procedures are developed to ensure regular network reporting and administration in accordance with organisational policies and procedures)
- Knowledge of the network and telecommunications models

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Assessment must confirm knowledge of network and telecommunication security available in the operating environment. • Assessment must confirm the ability to implement and evaluate network and telecommunication security functions on the system.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Prevent and detect intrusions and protect against viruses • Create, develop, apply, control, and manage effective network domain security controls • Gather technical data and monitor and assess network vulnerabilities • Perform a network security evaluation, calculate risks to the enterprise <p>The breadth, depth and complexity of knowledge and skills in this competency would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine.</p> <p>Leadership and guidance would be involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.</p> <p>Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills would be characteristic.</p> <p>Applications may involve responsibility for, and limited organisation of, others.</p>

EVIDENCE GUIDE	
	<p>To demonstrate competency in this unit the learner will require access to:</p> <ul style="list-style-type: none"> • Security policies • Standards • Case study scenarios
Method of assessment	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace.</p> <p>In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <p>The following assessment method is appropriate for this unit:</p> <ul style="list-style-type: none"> • Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. • Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. • The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of a broad knowledge base incorporating some theoretical concepts • Apply solutions to a defined range of unpredictable

EVIDENCE GUIDE

	<p>problems</p> <ul style="list-style-type: none"> • Identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas • Identify, analyse and evaluate information from a variety of sources • Take responsibility for own outputs in relation to specified quality standards • Take limited responsibility for the quantity and quality of the output of others • Maintain knowledge of industry products and services
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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.

Organisation policies may include:

- enterprise
- network
- host-based

Independent may include:

- other persons within organisation or department
- outside the organisation but non-government
- government regulator
- industry-based body

Unit Sector(s)

Unit sector	Implement
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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