



Australian Government

ICTCYS401 Design and implement network security infrastructure for an organisation

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 6.0.

Application

This unit describes the skills and knowledge required to set up network security infrastructure scalable to a medium to large organisation.

It applies to individuals who work as networking engineers and cloud engineers and specialise in cyber security in an Information and Communications Technology (ICT) and digital team environment.

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

Unit Sector

Cyber security

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. Prepare to design and implement network security infrastructure	1.1 Obtain work details and scope from required personnel and arrange for site access in compliance with required security arrangements, legislation, codes, regulations and standards 1.2 Establish security threats impacting organisation with required personnel and assess its likelihood 1.3 Confirm and document established requirements and risks according to organisational procedures
2. Design network security infrastructure	2.1 Establish requirements and features of network security infrastructure 2.2 Identify and evaluate a range of industry standard network security providers

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	2.3 Discuss and confirm selected network security provider with required personnel according to infrastructure requirements
3. Implement network security infrastructure	3.1 Establish and create secure network boundaries 3.2 Implement server, application and user security technologies according to network security requirements 3.3 Confirm required levels of user access throughout organisation 3.4 Establish maintenance and alert processes for risk and security threats according to organisational procedures
4. Finalise and monitor network security infrastructure	4.1 Test deployment of network security infrastructure and its components according to organisational testing procedures 4.2 Gather and review test results and logs and adjust accordingly 4.3 Confirm completion of requirements with required personnel 4.4 Document work performed and results according to organisational procedures 4.5 Conduct routine reviews of network security infrastructure according to organisational procedures

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
Learning	Identifies and gathers information applicable to business, infrastructure and network
Reading	Selects and applies network infrastructure features and procedures suited to job requirements and system design from range of routine texts
Writing	Uses required and industry specific terminology in documenting research findings and network security policies
Technology	- Uses required technological tools and software in designing and implementing network security infrastructure - Applies skills in systems administration, network security, applications and programming

Unit Mapping Information

No equivalent unit. New unit.

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 ICTCYS401 Design and implement network security infrastructure for an organisation

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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:

- design and implement a network security infrastructure according to organisational requirements.

In the course of the above, the candidate must:

- identify at least three security risks and at least three threats impacting business
- identify and evaluate the advantages and disadvantages of at least two industry standard network security providers suitable to infrastructure being designed and implemented.

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:

- network infrastructure features, including:
 - connectivity
 - routing and switching capabilities
 - network security
 - access control
- organisational business processes and applicable organisational, infrastructure, network and security requirements in each area
- organisational procedures applicable to designing and implementing network security infrastructure, including:
 - documenting established requirements, risks and work performed
 - establishing requirements and features of network security infrastructure
 - establishing maintenance and alert processes
 - conducting routine reviews of network security infrastructure
 - testing methods and procedures

- security risks, and tolerance of risk in an organisation
- industry standard network security providers
- industry standards and regulations applicable to implementing network security infrastructure in an organisation.

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:

- required hardware, software and its components
- organisational procedures and policies applicable to network security infrastructure
- required network security providers and solutions
- site server
- application and user security technologies.

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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