



Australian Government

ICTNWK435 Create secure virtual private networks

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with the Information and Communications Technology Training Package Version 8.0. Supersedes and is equivalent to ICTNWK416 Build security into virtual private networks. Supersedes and is not equivalent to: • ICTSAS422 Scope implementation requirements • ICTWEB423 Ensure dynamic website security. Updated title to better reflect unit scope.

Application

This unit describes the skills and knowledge required to assess and implement security access measures into virtual private networks (VPNs). It includes configuring a secure network router, testing router functionality, and following workplace procedures to rectify faults.

The unit applies to individuals who may be networkers, technical specialists and security analysts who are responsible for implementing secure network solutions and who use a wide range of information and communications technology (ICT) skills and knowledge to establish secure VPNs.

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

Unit Sector

Networking

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. Configure secure VPN	1.1 Confirm work brief and tasks according to organisational policies and procedures 1.2 Select secure network router according to work brief

ELEMENT	PERFORMANCE CRITERIA
	1.3 Source network configuration hardware, software and tools 1.4 Confirm component serviceability 1.5 Set up gateway and connect network router 1.6 Create and apply audit rules for network router and run asset security monitoring
2. Secure site-to-site VPN	2.1 Test network for vulnerabilities according to work brief and organisational policies and procedures 2.2 Establish prerequisites and confirm gateway connection to network router 2.3 Configure internet key exchange (IKE) and site-to-site internet protocol security (IPSec) systems 2.4 Authenticate site-to-site VPN user access
3. Secure client-to-site remote access VPN	3.1 Configure client-to-site VPN remote user access server 3.2 Install and access router management console 3.3 Test remote access server and rectify any faults
4. Finalise creation of secure VPNs	4.1 Develop and securely file documentation on system settings and framework components 4.2 Confirm VPN has been secured to an acceptable quality according to organisational policies and 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
Reading	Gathers, interprets and analyses current industry rules from a range of sources and locates relevant sources of information
Writing	Prepares workplace documentation in a format appropriate to organisational requirements
Initiative and enterprise	Initiates standard procedures when responding to problems in known or changing contexts
Planning and organising	Uses a combination of formal planning processes to identify threats, risks and vulnerabilities
Self-management	Undertakes security procedures in relation to own work and takes personal responsibility for identifying and managing risks

Skill	Description
Technology	Identifies the purposes, specific functions and key features of specialist systems and tools, and operates them effectively to complete work tasks

Unit Mapping Information

Supersedes and is equivalent to ICTNWK416 Build security into virtual private networks.

Supersedes and is not equivalent to:

- ICTSAS422 Scope implementation requirements
- ICTWEB423 Ensure dynamic website security.

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 ICTNWK435 Create secure virtual private networks

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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:

- configure at least one network router
- configure client-to-site virtual private network (VPN) access on at least one network router
- configure site-to-site VPN user access on at least one network router.

In the course of the above, the candidate must:

- authenticate VPN user access using one of the following:
 - pre-shared keys
 - digital certificates
- apply required organisational policies and procedures.

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:

- key characteristics of a VPN, including:
 - site-to-site access systems
 - client-to-site remote access systems

- network protocols and operating system functionality
- key features and distinguishing differences of network routers
- key methods to configure network components using technical guidelines
- key security threats, including:
 - data interception
 - data corruption
 - data falsification
 - eavesdropping
- key security requirements, authentication tools and techniques to secure a VPN, including:
 - auditing and penetration testing
 - shared keys and digital certificates
 - audit rules and intrusion detection systems
 - asset security monitoring
 - router and switch configuration
 - security and encryption protocols and standards
 - prerequisites and gateways
 - processes to establish security perimeters
 - processes to contain security breaches
 - transmission control protocol or internet protocol (TCP/IP) applications
 - procedures for user authentication
- key differences between different types of networks, including:
 - local area network (LAN)
 - wireless local area network (WLAN)
 - wide area network (WAN)
- organisational security techniques to identify and minimise network vulnerabilities, including:
 - security cryptography
 - screened subnets
 - virus detection software
- organisational formats for documentation
- organisational policies and procedures and legislative requirements relating to work tasks.

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:

- technical network requirements, including access to different browsers and different devices
- network infrastructure, including servers, tools, hardware and software
- organisational policies and procedures required to demonstrate the performance evidence.

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

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