Australian Government

ICTNWK607 Design and implement wireless network security

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 1.0.

Application

This unit describes the skills and knowledge required to mitigate security threats to a wireless local area network (WLAN) by implementing security standards and policies.

It applies to individuals with advanced information and communications technology (ICT) skills who are working as wireless help desk support technicians, wireless network support specialists and wireless network engineers.

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
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Plan to implement wireless network security	1.1 Research and evaluate organisational and regulatory security policies that have been used to benchmark acceptable network security standards 1.2 Assess customer requirements and needs against regulatory security compliance and work health and safety (WHS) considerations 1.3 Produce a plan with security solution documentation for future growth and security needs
2. Design, implement and test guest access services	2.1 Analyse and select the appropriate architecture for guest access services

ELEMENT	PERFORMANCE CRITERIA
	2.2 Produce a map and set up guest access accounts 2.3 Configure WLAN controller authorisation 2.4 Configure the anchor and internal controllers 2.5 Troubleshoot guest access issues
3. Design, implement and test the security of wireless client devices	3.1 Design and configure authentication of clients and management frame protection on clients and controllers 3.2 Configure access control servers for integration with wireless network 3.3 Configure client- and server-side digital certificate services 3.4 Troubleshoot secure wireless connectivity services
4. Design, implement and test the integration of wireless network with organisational network admission control systems	4.1 Analyse network admission control architectures to assess the feasibility of network integration 4.2 Analyse the high-level authentication process flow to ensure compatible integration 4.3 Configure and test the wireless controller for admission control 4.4 Troubleshoot integration issues of network with access control
5. Evaluate and plan secure wireless connectivity services	5.1 Configure the intrusion detection system (IDS) to monitor the network activities for malicious activities or policy violations 5.2 Analyse the report produced by the IDS to review threat-mitigation strategies 5.3 Update security solution plan to mitigate wireless vulnerabilities to ensure network integrity
6. Manage the requirements to integrate the WLAN with advanced security platforms	6.1 Evaluate end-to-end security solutions and assess how they integrate with the planned wireless solutions 6.2 Analyse the firewall configuration requirements of WLANs to ensure compliance with organisational policies 6.3 Configure and test the WLAN controllers for wired and wireless intrusion prevention and detection system (IPDS) security protection

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.2, 5.2, 6.2	• Recognises and interprets complex technical information to determine hardware requirements
Writing	1.3, 2.2, 5.3	• Develops a broad range of material including plans, maps and other documentation for a specific audience, using clear and detailed language to convey explicit information, requirements and recommendations
Numeracy	4.2, 4.3, 5.2, 6.3	• Interprets numerical data and undertakes measurements to evaluate performance and interoperability of network
Navigate the world of work	1.1, 1.2, 6.2	• Understands own legal rights and responsibilities, and considers implications of these when planning and undertaking work
Get the work done	1.2, 2.1, 2.2-2.5, 3.1-3.4, 4.1-4.4, 5.1, 6.1- 6.3	• Demonstrates a sophisticated understanding of principles, concepts, language and practices associated with the digital world and uses these to troubleshoot and understand the uses and potential of new technology • Uses a broad range of strategies to store, access and organise virtual information, recognising that design choices will influence what information is retrieved and how it may be interpreted and used • Is acutely aware of the importance of understanding, monitoring and controlling access to digitally stored and transmitted information • Uses a mix of intuitive and formal processes to identify key information and issues, evaluate alternative strategies, anticipate consequences and consider implementation issues and contingencies • Uses nuanced understanding of context to adapt configuration procedures to requirements of network, troubleshoot and debug WLAN issues and modify work depending on operational contingencies, risk situations and environments • Monitors outcomes of decisions, considering results from a range of perspectives and identifying key concepts and principles that may be adaptable to future situations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTNWK607 Design and implement wireless network security	ICANWK607A Design and implement wireless network security	Updated to meet Standards for Training Packages.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2