



Australian Government

ICTNWK606 Implement voice applications over secure wireless networks

Release: 1

ICTNWK606 Implement voice applications over secure wireless networks

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 use network tools, equipment, software and protocols to design and integrate voice over wireless local area network (VoWLAN) services into the wireless local area network (WLAN), and to implement into the wireless network quality of service (QoS), multi-protocol label switching (MPLS), and high bandwidth applications.

It applies to individuals with excellent information communications and technology (ICT) skills who are working as wireless help desk 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
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Specify requirements for voice over wireless architecture	1.1 Analyse voice requirements for use over a wireless network 1.2 Specify wireless requirements for voice applications for design considerations 1.3 Verify network for voice readiness and suitability
2. Design the implementation of secure	2.1 Configure wireless client devices 2.2 Design and configure the WLAN for VoWLAN with

ELEMENT	PERFORMANCE CRITERIA
VoWLAN	security configurations 2.3 Design and configure infrastructure devices 2.4 Devise structured troubleshooting methodology for VoWLAN implementation
3. Design and implement QoS for wireless applications	3.1 Plan general design considerations for wired QoS 3.2 Design wireless QoS deployment schemes 3.3 Configure WLAN equipment for QoS
4. Design, implement and test multicast over wireless environment	4.1 Evaluate general multicast concepts 4.2 Analyse the implications for multicast in 802.11 4.3 Configure multicast requirements for a wireless network 4.4 Devise structured troubleshooting methodology for multicast in a WLAN environment
5. Plan and scope the wireless network for video and high-bandwidth applications	5.1 Design and implement QoS for latency-sensitive applications 5.2 Analyse the requirement for video applications over 802.11n WLAN 5.3 Calculate and predict bandwidth requirements for video applications over the wireless network 5.4 Analyse the impact of the WLAN interconnectivity for devices on QoS for devices or the wired side

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	Recognises and interprets complex technical documentation to determine and confirm job requirements
Writing	1.2, 2.2-2.4, 3.2, 4.4, 5.1	Develops a range of material, including design and technical specifications, for a specific audience, using clear and detailed language to convey explicit information, requirements and recommendations

Numeracy	5.3	Interprets numerical data and undertakes measurements to evaluate performance and interoperability of the network
Get the work done	1.1-1.3, 2.1- 2.4, 3.1-3.3, 4.1-4.4, 5.1, 5.2, 5.4	- 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 - May operate from a broad conceptual plan, coordinating the process with others to identify functional, performance and management features associated with the operation of complex VoWLAN services - Uses nuanced understanding of context to troubleshoot and debug WLAN issues, adapt configuration procedures to network requirements and reconfigure depending on differing operational contingencies, risk situations and environments

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTNWK606 Implement voice applications over secure wireless networks	ICANWK606A Implement voice applications over secure wireless networks	Updated to meet Standards for Training Packages.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTNWK606 Implement voice applications over secure wireless networks

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- analyse and specify voice over wireless architecture requirements
- design and implement voice applications over wireless local area network (WLAN)
- implement a quality of service (QoS) for wireless applications
- use network tools to configure and test wireless infrastructure and applications
- plan and scope the wireless network bandwidth.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain the configuration, verification and troubleshoot procedures required to undertake:
 - router operation and routing
 - virtual local area network (VLAN) switching and inter-switching communications
- summarise iDevice operating system (iOS) and internet protocol (IP) networking models
- outline video and high-bandwidth applications and requirements
- explain voice applications and protocols
- clarify voice over wireless local area network (VoWLAN) technologies
- describe the following aspects of wireless networks:
 - current regulations, standards and certifications
 - deployment schemes
 - network security technology
 - network topologies and elements
 - networking protocols
- summarise WLAN devices and their specification and use.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the networking industry, and include access to:

- a site where network installation may be conducted
- hardware and software
- organisational guidelines
- computers
- stand-alone and lightweight WLAN controllers and AP
- hardware and software LAN/WLAN voice technologies.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>