ICTNWK508 Install, operate and troubleshoot medium enterprise switches

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 use appropriate tools, equipment, software and protocols to install, operate, and troubleshoot medium enterprise switches.

It applies to individuals working as help desk technicians and network support technicians.

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. Prepare to install a medium enterprise switch	1.1 Prepare for given work according to legislation, workplace health and safety (WHS), codes, regulations and standards
	1.2 Arrange access to the site according to required procedure
	1.3 Review existing network design documentation to ensure it is current and complete
	1.4 Select the network elements required to be installed to meet the technical requirements
	1.5 Contact vendors and service suppliers to obtain specifications and availability of identified components
	1.6 Develop plans, with prioritised tasks and contingency arrangements, for installation of components with minimum

ELEMENT	PERFORMANCE CRITERIA
	disruption to client
	1.7 Liaise with appropriate person to obtain approval for the plans, including security clearance and timing
2. Configure basic switch operation	2.1 Determine network segmentation, basic traffic management and basic switching requirements
	2.2 Perform, save and verify initial switch configuration tasks
	2.3 Select the appropriate media, cables, ports, and connectors to connect switches to other network devices and hosts
	2.4 Perform, save and verify initial switch configuration tasks
	2.5 Upgrade firmware on a switch
	2.6 Save and back up switch configuration files
	2.7 Implement basic switch security
3. Configure and verify advanced switching functions	3.1 Determine enhanced switching technologies
	3.2 Configure and verify virtual local area networks (VLANs)
	3.3 Configure and verify trunks between switches
	3.4 Configure and verify inter-VLAN routing
	3.5 Configure and verify spanning tree protocol (STP) and rapid spanning tree protocol (RSTP) operation
4. Troubleshoot medium enterprise switches	4.1 Troubleshoot device configuration and network connectivity using basic utilities
	4.2 Identify and resolve common switched network issues

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	1.1-1.3	• Gathers, interprets and analyses technical and regulatory information to determine requirements according to client needs
Writing	1.6	• Uses factual information and industry-related terminology to convey information to internal and external personnel on technical, operational

		and business related matters
Oral Communication	1.5, 1.7, 2.1, 3.1	• Uses active listening, observational and questioning techniques to identify information and confirm, clarify or revise understanding • Articulates requirements clearly and distinctively, using technical language appropriate to audience and environment
Numeracy	3.2-3.5	• Analyses numerical information to take measurements, interpret results and evaluate performance and interoperability of network
Navigate the world of work	1.1	• Appreciates the implications of legal and regulatory responsibilities related to own work
Get the work done	1.1, 1.2, 1.4, 1.6, 2.2-2.7, 3.2-3.5, 4.1, 4.2	• Reflects on the ways in which digital systems and tools are used or could be used to achieve work goals, and begins to recognise strategic and operational applications • Uses digital technologies and systems safely and securely when implementing and monitoring a system, with a growing awareness of the permanence and transparency of all activities • Uses a combination of formal, logical planning processes and an increasingly intuitive understanding of context to plan, prioritise and monitor own work and coordinate processes in liaison with others • Makes decisions in relatively complex situations, taking a range of factors into consideration • When dealing with complex issues, may use intuition to identify the general problem area, switching to analytical processes to clarify goals and key issues, and uses lateral thinking processes to generate possible solutions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence unit
ICTNWK508 Install, operate and troubleshoot medium enterprise switches	ICANWK508A Install, operate and troubleshoot medium enterprise switches	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