



Australian Government

ICTNWK424 Install and operate small enterprise branch networks

Release: 1

ICTNWK424 Install and operate small enterprise branch networks

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 utilise networking fundamentals, including wide area network (WAN) technologies, basic security, route and switch operations as well as to configure simple networks.

It applies to individuals involved in network support positions with the Information Communications Technologies (ICT) skills required to use tools, equipment, software and protocols to install, operate, a small enterprise branch network.

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. Prepare to install network	1.1 Determine organisational network performance and data flow requirements 1.2 Identify protocols in OSI and TCP/IP models according to organisational requirements 1.3 Identify common network problems at layers 1, 2, 3 and 7
2. Install small switched network	2.1 Select media, cables, ports, and connectors according to task requirements 2.2 Identify network segmentation, traffic management and switching requirements 2.3 Perform, save and verify initial switch configuration

ELEMENT	PERFORMANCE CRITERIA
	according to task requirements 2.4 Verify network status and switch operation according to technical and organisational standards 2.5 Implement and verify security level for switch according to organisational requirements
3. Implement IP addressing scheme and services	3.1 Create and implement addressing scheme to network according to task requirements and technical standards 3.2 Assign and verify live IP addresses to hosts, servers and networking devices in a local area network (LAN) environment 3.3 Implement static and dynamic addressing services for hosts 3.4 Enable and verify operation of network address translation (NAT) 3.5 Configure and implement dynamic host configuration protocol (DHCP) on router according to task requirements
4. Install small routed network	4.1 Select media, cables, ports, and connectors according to task requirements 4.2 Perform, save and verify basic router configuration according to task requirements 4.3 Install and verify classless routing protocol and network connectivity with required personnel 4.4 Implement password and physical security according to organisational requirements
5. Connect WAN links	5.1 Determine required method for connecting to a WAN 5.2 Implement and verify basic WAN serial connection
6. Finalise branch network activities	6.1 Seek network performance capability feedback from required personnel 6.2 Document finalised process and submit to required personnel 6.3 Store unused ICT equipment 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
Oral	Uses listening and questioning techniques to confirm information and

Communication	requirements and gather feedback from required personnel
Reading	• Interprets and critically analyses complex texts • Applies appropriate strategies to construct meaning from complex texts
Writing	• Prepares documentation detailing finalised process • Writes and edits code and technical data in a logical manner using required syntax and specifications

Unit Mapping Information

Supersedes and is equivalent to ICTNWK404 Install, operate and troubleshoot a small enterprise branch network.

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 ICTNWK424 Install and operate small enterprise branch 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, install and operate one small enterprise branch network
- identify, test and verify performance capability issues for a small enterprise branch network.

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:

- internet protocol (IP) addressing scheme architecture
- network topologies, protocols and security solutions defined network problems
- Open Systems Interconnection (OSI) layers of networking
- Transmission Control Protocol (TCP)
- Network Address translation (NAT)
- dynamic host configuration protocol.

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:

- a site where network installation may be conducted
- small enterprise routers and switches
- network's design documentation
- equipment specifications
- hardware and software required to install and operate small enterprise branch networks
- organisational guidelines

- computers
- documents including policies and procedures that may affect installation and operation of a network.

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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