



Australian Government

ICTNWK624 Configure advanced internetwork routing solutions

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 ICTNWK603 Plan, configure and test advanced internetwork routing solutions. - Supersedes and is not equivalent to ICTNWK605 Design and configure secure integrated wireless systems. Updated title to better reflect unit scope.

Application

This unit describes the skills and knowledge required to plan, install and test scalable and secure internet protocol version 4 (IPv4) and internet protocol version 6 (IPv6) internetwork routing solutions to local area networks (LANs) and wide area networks (WANs).

The unit applies to individuals who may have advanced information and communications technology (ICT) skills and knowledge working in roles such as security specialists, network and communications engineers, senior network administrators, network managers, branch officers and mobile workers.

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. Develop IP routing solutions	1.1 Confirm work brief and tasks according to organisational policies and procedures 1.2 Analyse and select appropriate advanced IPv4 and IPv6 routing protocols according to work brief 1.3 Select and source configuration hardware, software and

ELEMENT	PERFORMANCE CRITERIA
	tools 1.4 Confirm component serviceability 1.5 Create routing solution implementation and verification plan 1.6 Configure and test routing solution according to plan 1.7 Rectify any routing issues
2. Create IPv6-based network	2.1 Determine IPv6-based network requirements 2.2 Create implementation and verification plan for IP-based network solution in consultation with required personnel 2.3 Perform IPv6 interoperation with IPv4-based network 2.4 Verify and test IPv6-based network solution and rectify any issues
3. Confirm network redistribution	3.1 Complete network redistribution analysis 3.2 Create IPv6 redistribution plan according to analysis findings 3.3 Conduct and verify IPv6-based network redistribution 3.4 Test redistribution solution and rectify any issues 3.5 Develop and securely file documentation on completed work tasks 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	Interprets complex technical information to confirm requirements
Writing	Prepares workplace documentation that includes all completed work tasks in a format appropriate to organisational requirements
Planning and organising	Uses a combination of formal planning processes to identify threats and risks
Problem solving	Uses nuanced knowledge of context to solve problems in complex and dynamic environments
Technology	Interprets the strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and enhance or reduce risks

Unit Mapping Information

Supersedes and is equivalent to ICTNWK603 Plan, configure and test advanced internetwork routing solutions.

Supersedes and is not equivalent to ICTNWK605 Design and configure secure integrated wireless systems.

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 ICTNWK624 Configure advanced internetwork routing solutions

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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 internet protocol version 4 (IPv4) routing solution in which the work must include one of the following:
 - distance vector routing protocol solution
 - link-state routing protocol solution
- configure at least one internet protocol version 6 (IPv6) routing solution.

In the course of the above, the candidate must:

- produce and securely file documentation of work tasks performed
- 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 types of IPv4 and IPv6 routing protocols and solutions, including:
 - distance vector routing solutions
 - link-state routing protocol solutions
 - hybrid routing solutions
- functions and features relevant to configuring advanced internetwork routing solutions, including:

- broadband technologies
- routing tables
- external factors that impact network design
- business component implementation
- implementation and verification plans
- virtual private networks (VPN)
- IPv6-based networks
- IPv4-based networks
- IPv4 and IPv6 redistribution and interoperation processes
- local area networks (LANs)
- wide area networks (WANs)
- routing solutions
- configuration procedures for IPv6-based networks
- methods and technical guidelines required to configure network components
- network testing tools and operations for complex networks
- risk management strategies and practices for complex networks, including:
 - protocols and operational processes
 - operating security technologies
 - formal and structured approaches to network management
- 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 operating systems on different devices
- network infrastructure, including servers, tools, hardware and software
- LAN and WAN systems required to demonstrate the performance evidence
- 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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