# ICTNWK603 Plan, configure and test advanced internetwork routing solutions

**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 necessary to plan, configure and support advanced internet protocol (IP) addressing and routing when implementing scalable and secure routers connected to local area networks (LANs) and wide area networks (WANs). The unit also covers configuration of secure routing solutions to support branch offices and mobile workers.

It applies to individuals with advanced information and communications technology (ICT) skills who are working in a variety of roles, including network specialists, network engineers, network infrastructure engineers, senior network administrators, network and systems managers, ICT security specialists, security engineers, communications engineers and communications managers.

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, configure and test a complex network-routing protocol solution | 1.1 Determine network resources required for implementing a complex distance-vector routing protocol solution, a multi-area link-state routing protocol solution and an exterior routing protocol solution on a network<br><br>1.2 Produce separate protocol implementation plans and verification plans for each routing solution |

| ELEMENT | PERFORMANCE CRITERIA |
|---|---|
| | 1.3 Configure and test the routing protocol solution |
| | 1.4 Document results of the routing protocol solution implementation and verification plans for each solution |
| 2. Plan, configure and test an internet protocol version 6- (IPv6) based network solution | 2.1 Determine network resources needed for implementing IPv6 on a network |
| | 2.2 Produce an implementation plan and a verification plan for an IPv6-based network solution |
| | 2.3 Configure IPv6 routing and IPv6 interoperation with IPv4 |
| | 2.4 Verify and test the IPv6 solution and make amendments if necessary |
| | 2.5 Document results of IPv6 implementation and verification plans |
| 3. Plan, configure and test an IPv4 or IPv6-based network redistribution solution | 3.1 Produce an IPv4 or IPv6 redistribution implementation plan and verification plan, based on the outcomes of a network redistribution analysis |
| | 3.2 Configure and verify the redistribution solution for the network |
| | 3.3 Document results of redistribution, implementation and verification plans |
| | 3.4 Analyse the differences between implementing an IPv4 and an IPv6 redistribution solution |
| 4. Plan, configure and test a layer 3 path control solution | 4.1 Produce a layer 3 path control implementation plan and a verification plan based on the outcomes of a network redistribution analysis |
| | 4.2 Configure and verify layer 3 path control for the network |
| | 4.3 Implement basic teleworker and branch services |
| | 4.4 Evaluate and compare broadband technologies and VPN technologies in terms of access and data transfer rate as solutions for secure broadband network |

## Foundation Skills

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

| Skill | Performance | Description |
|---|---|---|
| | | |

|  | **Criteria** |  |
|---|---|---|
| Reading | 1.1 | • Recognises and interprets complex technical information to determine and confirm job requirements |
| Writing | 1.2, 1.4, 2.2, 2.5, 3.1, 3.3, 4.1 | • Develops a broad range of material including operational, technical and project management documentation for a specific audience, using clear and detailed language to convey explicit information, requirements and recommendations |
| Get the work done | 1.1, 1.3, 2.1, 2.3, 2.4, 3.1, 3.2, 3.4, 4.1-4.4 | • Considers the strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and enhance or reduce risks<br><br>• 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<br><br>• Is acutely aware of the importance of understanding, monitoring and controlling access to digitally stored and transmitted information<br><br>• May operate from a broad conceptual plan to identify functional, performance and management features associated with the operation of complex networks<br><br>• Uses nuanced understanding of context to solve problems in complex and dynamic environments with demanding service levels |

## Unit Mapping Information

| Code and title current version | Code and title previous version | Comments | Equivalence status |
|---|---|---|---|
| ICTNWK603 Plan, configure and test advanced internetwork routing solutions | ICANWK603A Plan, configure and test advanced internetwork routing solutions | 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