



Australian Government

Department of Education, Employment and Workplace Relations

ICANWK305A Install and manage network protocols

Release: 1

ICANWK305A Install and manage network protocols

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to install and manage network protocols in a networking environment.

Application of the Unit

This unit applies to network administrators who are required to ensure that appropriate protocols have been installed in networks to allow user functionality. The role will also involve the maintenance of installed protocols.

This unit requires the application of transmission control protocol or internet protocol (TCP/IP) and OSI models. Protocols transcend organisational size and network complexity.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Install and manage network protocols	1.1 Select, test and validate appropriate network protocol services 1.2 Design a network addressing system, with subnet and host IDs, including appropriate devices 1.3 Configure hosts and workstations to use IP addresses either manually or through automatic allocation of addresses, such as found with dynamic host configuration protocol (DHCP)
2. Identify network protocol applications	2.1 Review a range of well-known network protocol applications 2.2 Evaluate client user requirement and recommend network-protocol services 2.3 Apply IP addressing scheme according to approved policy and procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to evaluate client user requirements and map to appropriate protocols
- learning skills to ensure currency with protocols development
- literacy skills to interpret technical manuals
- organisational skills to plan, prioritise and organise work
- problem-solving skills to develop and refine configuration protocols
- technical skills to:
 - configure workstations
 - develop strategic initiatives when designing a network addressing system
 - test components using available technology
 - write detailed technical notes.

Required knowledge

- client business domain, including client organisation structure and business functionality
- current communications technologies and their associated protocols
- current industry-accepted hardware and software products and general features and capabilities
- network protocols currently in use in organisation and industry
- vendor product range and development directions.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • configure, test and validate network protocols in order to facilitate interconnectivity • install and manage network protocols in a network, and troubleshoot when problems arise.
Context of and specific resources for assessment	Assessment must ensure access to: • a live network • application software and operating system • appropriate learning and assessment support when required • modified equipment for people with special needs • networked computers • organisational guidelines • technical documentation and installation manuals • vendor software.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • verbal or written questioning to assess candidate's knowledge of communications technologies and network protocols • direct observation of candidate configuring network or application protocols • review of candidate's analysis of client user requirements and final recommendations • evaluation of performance test results conducted by candidate.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate. Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed. Indigenous people and other people from a non-English speaking

	background may need additional support. In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.
--	---

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Network protocol services may include:	• address resolution protocol (ARP) • DHCP • electronic mail protocols • file transfer protocol (FTP) • H.323 protocol • hypertext transfer protocol (HTTP) • internet protocol (IP) • internet protocol version 4 (IPv4) • internet protocol version 6 (IPv6) • simple network management protocol (SNMP) • simple object access protocol (SOAP) • TCP/IP • wireless application protocol (WAP).
Network may include:	• large and small local area networks (LANs) • virtual private networks (VPNs) • wide area networks (WANs) • wireless local area networks (WLANs).
Devices may include:	• emulators • gateways • routers.
Applications may include:	• FTP • HTTP • hypertext transfer protocol secure (HTTPS) • secure shell • secure socket layer (SSL) • simple mail transfer protocol (SMTP) • Telnet (not secure).

Unit Sector(s)

Networking