



Australian Government

Department of Education, Employment and Workplace Relations

ICTTEN2207A Install and configure a home or small office network

Release: 1

ICTTEN2207A Install and configure a home or small office network

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required for entry level networking support to establish a small office or home office (SOHO) internet connected PC network. 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.
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Application of the Unit

Application of the unit	The unit applies to a home office or small business requiring the use of network and internetwork connectivity. It also applies to small networks with simple internet protocol (IP) addressing schemes that share a limited range of resources. Physical connections may be wired or wireless and simple firewall security employed. Relevant job roles include installer of SOHO IP networks, network technician, SOHO network support and digital home integrator.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the installation of a home or small office network	1.1. Prepare for given work confirming site specific occupational health and safety (OHS) and environmental requirements with appropriate personnel 1.2. Identify safety hazards and implement risk control measures in consultation with appropriate personnel 1.3. Determine nature and scope of the network and network resources from job briefs or appropriate personnel 1.4. Select and obtain personal computer system and network device requirements according to enterprise procedures 1.5. Obtain operating instructions, manuals, hardware and software testing methodologies 1.6. Consult appropriate personnel to ensure the task is coordinated effectively with others involved at the work site
2. Install and troubleshoot a home or small office network	2.1. Set up personal computer systems according to manufacturer's specifications and enterprise procedures 2.2. Set up, configure and share network resources between network devices 2.3. Determine network addressing scheme for network connectivity and confirm using calculations 2.4. Troubleshoot network and internet connectivity according to manufacturer's specifications and enterprise procedures 2.5. Identify security threats and initiate control measures according to enterprise procedures
3. Complete and document network installation	3.1. Restore worksite to safe condition according to established safety procedures 3.2. Record and store essential installation information according to enterprise procedures 3.3. Notify appropriate personnel about the completion of the task according to enterprise procedures 3.4. Notify customer and obtain sign off

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- communication skills to liaise with customers and peers to achieve outcomes
- literacy skills to read and interpret enterprise procedures, manuals and specifications
- numeracy skills to interpret technical data and perform calculations to confirm network connectivity
- planning and organisational skills to plan and prioritise own work
- problem solving skills to:
 - deal with unexpected situations on the basis of safety and specified work outcomes
 - troubleshoot common network problems according to help desk procedures
- safety awareness skills to:
 - apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
 - follow enterprise OHS procedures
 - work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- technical skills to:
 - configure the security features of a network to minimise risk of any security breach
 - correctly use tools and equipment
 - design a small computer network using appropriate protocols, tools and models to provide a specified range of services
 - develop a security policy for a small computer network
 - install, configure and maintain basic wired and wireless computer networks, systems and peripherals
 - plan, select, install and configure network operating systems

Required knowledge

- correct usage of tools and equipment
- enterprise OHS procedures
- basic computer systems and network operating systems
- computer networking principles (wired and wireless)
- network addressing systems (basic)
- network services and associated network models and protocols
- network security management
- troubleshooting procedures

Evidence Guide

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:

- implement OHS workplace procedures and practices
- plan the installation of an internet connected network
- set up and configure wired and wireless networks with simple addressing schemes
- troubleshoot network and internet connectivity
- set up resource sharing
- deploy simple firewall network security.

Context of, and specific resources for assessment

Assessment must ensure:

- a site where installation of a SOHO network may be conducted
- use of tools, equipment and materials currently used in industry
- relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate installing and configuring a SOHO network
- direct observation of the candidate deploying simple firewall network security
- oral or written questioning to assess knowledge of personal computer systems.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example with:

- ICTTEN2208A Install and configure a small to medium business network.

Aboriginal people and other people from a non-English

EVIDENCE GUIDE

	speaking background may have second language issues. Access must be provided to appropriate learning and assessment support when required. Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. Where applicable, physical resources should include equipment modified for people with special needs.
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Range Statement**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.

OHS requirements may include:

- awards provisions
- hazardous substances and dangerous goods code
- legislation
- local safe operation procedures
- material safety management systems
- protective equipment.

Environmental requirements may

- dust

RANGE STATEMENT	
include:	• excessive energy and water use • excessive noise • fume • gas • liquid waste • smoke emissions • solid waste • vapour.
Appropriate personnel may include:	• customer/client • manager • network manager • site engineer • supervisor.
Network resources may include:	• dynamic host configuration protocol (DHCP) server • domain name system (DNS) server • files • software • web browser.
Personal computer system may include:	• interface cards • media connections • operating system • PC hardware • peripheral devices.
Network device may include:	• hub • network attached storage device • print server • router (wired or wireless) • switch.
Enterprise procedures may include:	• instructions: • designs • drawings • job sheets • plans • manufacturer's specifications • operational procedures • reporting and communication • use of tools and equipment.
Network addressing scheme may	• dynamic addressing

RANGE STATEMENT	
include:	• static addressing • sub-net addressing.
Calculations may include:	• binary addition • binary conversion • binary division • binary multiplication • binary number system • binary subtraction.
Essential installation information may include:	• installation software • IP addressing schemes • logical and physical diagrams • network administrator codes • passwords • security access codes.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Telecommunications networks engineering
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