



Australian Government

ICTTEN413 Undertake remote diagnosis and repair of network faults

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 2.0.

Application

This unit describes the skills and knowledge required to undertake fault diagnostic and repair strategies for working with remote network equipment.

It applies to individuals working as field technicians, remotely accessing the network and the Network Operation Centre (NOC) which controls the coordination of remote network activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications – Telecommunications Networks Engineering

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. Diagnose remote faults	1.1 Install remote access software on notebook computers 1.2 Verify network fault by analysing relevant data 1.3 Investigate context and background information relevant to the network fault 1.4 Source appropriate documentation and test equipment relevant to the network fault 1.5 Conduct appropriate tests and analyse results 1.6 Diagnose network faults using established methodical strategies

ELEMENT	PERFORMANCE CRITERIA
	in a timely fashion without disruption to other services
2. Plan remote repair	2.1 Assess involvement level of the NOC in planning the repair 2.2 Plan for any necessary outages and notify customers 2.3 Develop repair strategies to clear fault 2.4 Develop a strategy for rerouting customer traffic if applicable 2.5 Advise on-site personnel of required work and clearly communicate the repair strategy
3. Repair fault	3.1 Initiate remote repair strategies to reconfigure or repair remote equipment in a manner safe to self, fellow workers, network equipment and public 3.2 Inform customers of repair progress where fault has caused degradation of service or outage 3.3 Escalate unresolved faults according to established enterprise procedure 3.4 Test remote repair for required performance 3.5 Assess ongoing network performance and the likelihood of further problems
4. Report remote diagnosis and repair and document results	4.1 Notify all relevant parties of results of remote diagnosis and repair 4.2 Record details relating to any outage according to enterprise procedures 4.3 Complete all relevant documentation and recommend any changes required by the enterprise quality assurance system

Foundation Skills

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

Skill	Performance Criteria	Description
Reading	1.2, 1.3, 3.3, 4.2, 4.3	• Recognises and interprets complex technical data, procedures, equipment, system manuals and specifications
Writing	2.2-2.5, 3.2, 4.1-4.3	• Uses clear, specific and industry-related terminology

		to produce and update workplace documentation and make recommendations
Oral Communication	2.2, 2.5, 3.2, 4.1	• Articulates clearly and concisely to provide advice and guidance to technical personnel working across different levels and in different contexts • Uses well-developed listening and questioning techniques to confirm understanding
Numeracy	1.2, 1.5	• Interprets a wide variety of numerical readings and data
Navigate the world of work	3.1, 3.3, 4.2	• Takes personal responsibility for adherence to legal and regulatory responsibilities, and enterprise policies and procedures relevant to own work • Alerts others of issues that may affect self or others, with specific reference to safety
Interact with others	2.2, 3.2, 4.1	• Selects and uses appropriate conventions and protocols when communicating with customers and technical staff in a range of work contexts
Get the work done	1.1, 1.3-1.6, 2.1-2.3, 3.1, 3.3-3.5, 4.3	• Understands key principles and concepts underpinning design and operation of digital systems and tools, and applies these when troubleshooting existing technology • Works logically and systematically to monitor, analyse and action job priorities • Implements actions according to a predetermined plan, making adjustments if necessary • Makes decisions quickly and intuitively in familiar situations requiring immediate attention, drawing on past experience to identify key variables and determine the best course of action • Uses analytical processes to decide on a course of action, establishing criteria for deciding between options and seeking input and advice from others when escalating difficulties

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN413 Undertake	ICTTEN4087A Undertake	Updated to meet	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
remote diagnosis and repair of network faults	remote diagnosis and repair of network faults	Standards for Training Packages.	unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTTEN413 Undertake remote diagnosis and repair of network faults

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Performance Evidence

Evidence of ability to:

- communicate effectively with relevant parties, using appropriate technical and non-technical language
- diagnose and identify faults, including using fault history and ranking likely causes
- plan and coordinate repair of network faults
- apply enterprise escalation and outage procedures following related work health and safety (WHS) requirements and work practices
- ensure customers and others are kept notified of works progress.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe telecommunications systems and equipment and technologies likely to be encountered in remote networks
- explain principles and use of path protection
- outline key components of a telecommunications network
- describe test equipment and test procedures required for determining network faults
- evaluate test results and specify solutions
- explain typical problems and challenges that arise in Network Operations Centres (NOCs) and in the field.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the telecommunications networks engineering field of work and include access to:

- sites on which remote diagnosis and repair of network may be conducted
- test equipment currently used in industry
- manufacturer's technical documentation.

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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