



Australian Government

ICTTEN508 Locate, diagnose and rectify complex faults

Release: 1

ICTTEN508 Locate, diagnose and rectify complex faults

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 identify faults in upstream or downstream services that may require involvement of third party providers.

It applies to individuals working as telecommunications officers, installers, maintenance staff, and manufacturer or equipment specialists. They must work closely with other personnel and rectify technical faults in a timely manner.

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. Prepare to locate and rectify complex faults	1.1 Prepare for given work according to relevant legislation, codes, regulations and standards 1.2 Notify client to arrange site access 1.3 Obtain and interpret results of any action taken by first fault repairer 1.4 Obtain fault history to establish any fault patterns 1.5 Obtain all available data on system equipment to assist with fault diagnosis 1.6 Develop strategies for identification and repair in discussion with other engineering and technical personnel

ELEMENT	PERFORMANCE CRITERIA
	1.7 Obtain tools and test equipment relevant to the identified system type and fault 1.8 Set up equipment according to manufacturer's specifications and safe work practices and reconfigure as required
2. Locate and diagnose faults	2.1 Use methodical and safe work practices suitable for system and problem type to identify system fault 2.2 Isolate and test fault progressively to remove likely variables from assessment, and record test results 2.3 Refer faults that may involve third party services, if required 2.4 Diagnose fault in the shortest time possible with minimum inconvenience to other client activity 2.5 Provide regular progress reports to clients 2.6 Raise fault identification to a national support level within a specified timeframe, if required 2.7 Undertake guidance from national support in fault diagnosis as required 2.8 Negotiate any necessary system downtime with clients
3. Rectify fault	3.1 Determine options to rectify fault including any system downtime and present to client for decision 3.2 Rectify fault totally, partially or provide temporary solution 3.3 Replace or repair faulty parts or equipment according to service agreement 3.4 Reprogram equipment as required 3.5 Dismantle and remove any temporary service in a safe and efficient manner where appropriate 3.6 Perform repair under national support guidance as required 3.7 Perform routine checks to identify likelihood of further or likely problems 3.8 Rectify any further problems identified, or bring to the attention of the customer for decision on further action
4. Clean up worksite and complete records	4.1 Produce a report on fault diagnosis and rectification 4.2 Remove and dispose of waste and debris from worksite according to environmental requirements 4.3 Ensure changes made to work area during fault repair are restored to client's satisfaction 4.4 Complete all records, and explain and justify faults and

ELEMENT	PERFORMANCE CRITERIA
	rectification action taken

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	1.1, 1.3, 1.8, 3.3	Identifies, analyses and evaluates technical documentation including codes, standards and regulatory information
Writing	1.2, 2.2, 2.5, 2.8, 3.8, 4.1, 4.4	Prepares clear and concise written reports and workplace documentation, incorporating technical language to communicate complex information clearly and effectively
Oral Communication	1.2, 1.6, 2.5, 2.8, 3.8, 4.3	- Liaises and negotiates with clients, repairers and technical staff using appropriate strategies to extract main ideas and information from oral texts regarding technical and operation matters - Employs listening and questioning techniques to confirm understanding
Numeracy	2.1, 2.2	Uses mathematical formulae to interpret technical data, such as specifications of equipment operations
Navigate the world of work	1.1, 3.5, 4.2	Takes personal responsibility for adherence to legal and regulatory responsibilities and organisational policies and protocols relevant to own work
Interact with others	2.6-2.8, 3.1, 3.8	- Selects appropriate protocols and conventions for communicating with technical personnel and customers in a broad range of work contexts - Collaborates with others to negotiate agreeable outcomes
Get the work done	1.3-1.8, 2.1-2.4, 3.1-3.4, 3.6-3.8	Uses a combination of formal, logical planning processes and an increasingly intuitive understanding of context to identify and rectify technical faults
		- Understands key principles and concepts underpinning design and operation of digital systems and tools, and applies these as required - 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 before taking action when necessary
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN508 Locate, diagnose and rectify complex faults	ICTTEN5083A Locate, diagnose and rectify complex faults	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>

Assessment Requirements for ICTTEN508 Locate, diagnose and rectify complex faults

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Performance Evidence

Evidence of ability to:

- methodically analyse fault details and diagnose potential faults
- conduct advanced tests to determine complex network faults
- isolate and locate faults logically
- rectify faults using appropriate organisational procedures and work health and safety (WHS) requirements
- comply with all related WHS requirements and work practices.

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:

- explain fault escalation procedures
- describe the most appropriate fault-finding techniques and test equipment required
- identify fault types and rectification methods
- list safety requirements and standards
- define the function of service agreements
- outline types of networks and equipment including:
 - access
 - broadband deployment
 - cabling
 - customer premises' equipment (CPE)
 - internet protocol (IP) networks for enterprise and customer systems and installations
 - local area networks (LANs)
 - telephony

- wide area networks (WANs)
- outline workplace environment and practices.

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 fault diagnostics may be conducted
- testing equipment currently used in industry
- relevant regulatory and equipment documentation impacting complex fault repairs.

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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