



Australian Government

ICTNWK556 Identify and resolve network problems

Release: 1

ICTNWK556 Identify and resolve network problems

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to troubleshoot local area network (LAN), wide area network (WAN) and wireless network problems.

It applies to individuals working as network managers, network engineers and technical specialists or similar, and who generally work independently with limited supervision. Individuals at this level perform a broad range of problem-solving activities including troubleshooting, evaluating and analysing networks and planning and developing new systems and procedures.

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
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Implement network monitoring	1.1 Set up required network monitoring logs and produce a management information base (MIB) according to organisational requirements 1.2 Benchmark network performance and establish network performance reference point 1.3 Identify critical activity levels and network capacity 1.4 Plan and document network performance review schedule according to organisational requirements and technical specifications 1.5 Determine additional network enhancing resource requirements

ELEMENT	PERFORMANCE CRITERIA
	according to organisational requirements and technical specifications
2. Prepare to troubleshoot network problems	2.1 Determine major network problems according to organisational reporting requirements 2.2 Identify organisational and vendor support services and network resolution plan 2.3 Plan and document network problem reporting and resolution plan 2.4 Lodge plan according to organisational requirements
3. Diagnose network faults	3.1 Establish fault hierarchy using data from previous resolution attempts 3.2 Progressively isolate and resolve fault according to technical specifications 3.3 Document fault resolution steps according to organisational requirements
4. Rectify faults	4.1 Isolate repair requirements according to technical specifications 4.2 Replace and reconfigure equipment and software 4.3 Test network and confirm fault rectification against technical requirements 4.4 Document outcomes according to organisational policies and procedures 4.5 Document user downtimes and submit report to required personnel
5. Finalise fault rectification process	5.1 Review fault resolution and determine likelihood for reoccurrence 5.2 Determine and document planned maintenance and upgrade requirements 5.3 Submit maintenance plan to required personnel 5.4 Seek and respond to feedback from required personnel

Foundation Skills

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

SKILL	DESCRIPTION
Learning	Demonstrates consideration of strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and enhance or reduce risks

SKILL	DESCRIPTION
Numeracy	Performs mathematical calculations to analyse costs and values to accurately determine performance
Oral communication	Uses highly developed listening and questioning techniques to understand others' perspectives and articulates complex information to required personnel
Reading	Draws knowledge from written technical material, equipment manuals and other specifications to determine and confirm job requirements
Writing	Develops a broad range of material such as reports and test documentation for a specific audience, using clear and detailed language to convey explicit information
Teamwork	Identifies the requirements of important communication exchanges, selecting required channels, format, tone and content to suit purpose and audience
Planning and organising	Operates from a broad conceptual plan, developing the operational detail in stages, regularly reviewing priorities and performance during implementation and identifying and addressing issues
Problem solving	Uses nuanced knowledge of context to recognise anomalies in a network environment and subtle deviations to normal expectations, focussing attention and solving problems as they arise
Self-management	- Demonstrates the importance of knowledge, monitoring and controlling access to digitally stored and transmitted information - Identifies a need for further information or seek advice from required experts
Technology	Demonstrates a sophisticated knowledge of principles, concepts, language and practices associated with the digital world

Unit Mapping Information

Supersedes and is equivalent to ICTNWK532 Identify and resolve network problems.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTNWK556 Identify and resolve network problems

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- monitor a medium-sized network, determine and rectify network fault.

In the course of the above, the candidate must:

- provide constant monitoring and tuning of network
- document finalised processes.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- industry standard hardware, cabling and software products, including general features and capabilities
- organisational maintenance response-level escalation procedures
- organisational business domain, including organisational structure and business functionality
- network management tools including general features and capabilities with substantial depth in troubleshooting areas
- outline industry standard network topologies
- networking technologies, features and capabilities including those relating to:
 - protocol stacks of transmission control protocol or internet protocol (TCP/IP)
 - open system interconnection (OSI)
- major organisations that oversee internet protocols
- industry standard network protocols.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- a live system and sites with a representative range of network environments and operating systems
- technical records and documentation
- management information base of accumulated fault resolution information
- network support tools.

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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