



Australian Government

ICTNWK532 Identify and resolve network problems

Release: 1

ICTNWK532 Identify and resolve network problems

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

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 such as network managers, network engineers and technical specialists who generally work independently with limited supervision. Staff 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 regular network monitoring	1.1 Set up appropriate logs to monitor network activity and to produce a management information base (MIB) 1.2 Use network tools to benchmark the network and to establish a reference point for network performance 1.3 Identify critical activity levels and network capacity 1.4 Regularly review documents and logs to facilitate network tuning 1.5 Make recommendations to management for additional network resources to improve performance or to proactively avoid problems

ELEMENT	PERFORMANCE CRITERIA
2. Troubleshoot network problems	2.1 Communicate with help desk and other support services to quickly identify network problems 2.2 Use various tools and knowledge of network topology and protocols to identify network problems 2.3 Consult with vendor or service suppliers for assistance where appropriate
3. Diagnose network faults	3.1 Establish likely fault hierarchy using data from previous resolution attempts 3.2 Progressively isolate fault with concurrent testing of fault presence 3.3 Document steps taken to resolve fault 3.4 Refer fault to a higher level if not resolved within organisational limits
4. Rectify faults	4.1 Isolate and repair, replace and reconfigure equipment or software 4.2 Test network to ensure fault rectification 4.3 Advise users and clients of progress and solutions in a timely manner 4.4 Complete support documentation
5. Finalise fault rectification process	5.1 Review resolution of fault for possible reoccurrence, planned maintenance or upgrade requirements 5.2 Report to client with fault resolution and recommendations 5.3 Obtain sign-off from the appropriate person for work and billing outside of warranty or service level agreements 5.4 Forward necessary documentation to the appropriate person

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	1.4, 3.1	Recognises and interprets technical material, equipment manuals and other specifications to

		determine and confirm job requirements
Writing	1.5, 2.1, 2.3, 3.3, 4.3, 4.4, 5.2	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
Oral Communication	1.5, 2.1, 2.3, 4.3, 5.2	- Uses highly developed listening, observational and questioning skills to understand others' perspectives and clarify, explore and extend meaning - Establishes and maintains complex and effective spoken communication to convey and clarify a range of complex information to relevant personnel
Numeracy	1.5	Performs mathematical calculations to analyse costs and values to accurately determine performance
Interact with others	5.3, 5.4	Actively identifies the requirements of important communication exchanges, selecting appropriate channels, format, tone and content to suit purpose and audience
Get the work done	1.1-1.3, 2.2, 3.1, 3.2, 3.4, 4.1, 4.2, 5.1,	- Considers the strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and enhance or reduce risks - Is acutely aware of the importance of understanding, monitoring and controlling access to digitally stored and transmitted information - May operate from a broad conceptual plan, developing the operational detail in stages, regularly reviewing priorities and performance during implementation, and identifying and addressing issues - Uses nuanced understanding of context to recognise anomalies in a network environment and subtle deviations to normal expectations, focussing attention and solving problems as they arise - May identify a need for further information or seek advice from relevant experts

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
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Code and title current version	Code and title previous version	Comments	Equivalence status
ICTNWK532 Identify and resolve network problems	ICANWK532A Identify and resolve network problems	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 ICTNWK532 Identify and resolve network problems

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Performance Evidence

Evidence of the ability to:

- produce a management information base
- benchmark the network performance
- troubleshoot and rectify network problems
- provide constant monitoring and tuning of the network
- review fault resolution and make recommendations.

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

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 must be typical of those experienced in the network industry, and include 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 must satisfy NVR/AQTF assessor requirements.

Links

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