



**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          | <p>1.1 Set up appropriate logs to monitor network activity and to produce a management information base (MIB)</p> <p>1.2 Use network tools to benchmark the network and to establish a reference point for network performance</p> <p>1.3 Identify critical activity levels and network capacity</p> <p>1.4 Regularly review documents and logs to facilitate network tuning</p> <p>1.5 Make recommendations to management for additional network resources to improve performance or to proactively avoid problems</p> |

| ELEMENT                                 | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Troubleshoot network problems        | 2.1 Communicate with help desk and other support services to quickly identify network problems<br>2.2 Use various tools and knowledge of network topology and protocols to identify network problems<br>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<br>3.2 Progressively isolate fault with concurrent testing of fault presence<br>3.3 Document steps taken to resolve fault<br>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<br>4.2 Test network to ensure fault rectification<br>4.3 Advise users and clients of progress and solutions in a timely manner<br>4.4 Complete support documentation                                                                                                                       |
| 5. Finalise fault rectification process | 5.1 Review resolution of fault for possible reoccurrence, planned maintenance or upgrade requirements<br>5.2 Report to client with fault resolution and recommendations<br>5.3 Obtain sign-off from the appropriate person for work and billing outside of warranty or service level agreements<br>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             | <ul style="list-style-type: none"><li>Recognises and interprets technical material, equipment manuals and other specifications to</li></ul> |

|                      |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |                                             | determine and confirm job requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Writing              | 1.5, 2.1, 2.3, 3.3, 4.3, 4.4, 5.2           | <ul style="list-style-type: none"> <li>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</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Oral Communication   | 1.5, 2.1, 2.3, 4.3, 5.2                     | <ul style="list-style-type: none"> <li>Uses highly developed listening, observational and questioning skills to understand others' perspectives and clarify, explore and extend meaning</li> <li>Establishes and maintains complex and effective spoken communication to convey and clarify a range of complex information to relevant personnel</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Numeracy             | 1.5                                         | <ul style="list-style-type: none"> <li>Performs mathematical calculations to analyse costs and values to accurately determine performance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Interact with others | 5.3, 5.4                                    | <ul style="list-style-type: none"> <li>Actively identifies the requirements of important communication exchanges, selecting appropriate channels, format, tone and content to suit purpose and audience</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Get the work done    | 1.1-1.3, 2.2, 3.1, 3.2, 3.4, 4.1, 4.2, 5.1, | <ul style="list-style-type: none"> <li>Considers the strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and enhance or reduce risks</li> <li>Is acutely aware of the importance of understanding, monitoring and controlling access to digitally stored and transmitted information</li> <li>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</li> <li>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</li> <li>May identify a need for further information or seek advice from relevant experts</li> </ul> |

## Unit Mapping Information

| Code and title<br>current version | Code and title<br>previous version | Comments | Equivalence<br>status |
|-----------------------------------|------------------------------------|----------|-----------------------|
|-----------------------------------|------------------------------------|----------|-----------------------|

| <b>Code and title<br/>current version</b>       | <b>Code and title<br/>previous version</b>       | <b>Comments</b>                                  | <b>Equivalence<br/>status</b> |
|-------------------------------------------------|--------------------------------------------------|--------------------------------------------------|-------------------------------|
| 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.education.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>