



Australian Government

UEECS0023 Install and configure network systems for internetworking

Release: 1

UEECS0023 Install and configure network systems for internetworking

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to install and configure network systems for internetworking.

It includes applying safe working practice, installing and configuring routers, and documenting installation and configuration activities.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Computer Systems

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install and configure internetworking systems

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|------------|---|
| 1.1 | Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a given work area are identified, obtained and applied |
| 1.2 | WHS/OHS risk control measures and workplace procedures in preparation for the work are followed |

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| | 1.3 | Internetworking installation and configuration are determined from internetworking performance specifications and in consultation with relevant person/s |
| | 1.4 | Media and software required for internetworking is selected in accordance with workplace procedures |
| | 1.5 | Network cabling test reports are obtained and reviewed to determine internetworking systems in accordance with relevant industry standards |
| | 1.6 | Activities are planned in accordance with workplace procedures for timelines and in consultation with others involved |
| | 1.7 | Development tools and software are selected in accordance with relevant industry standards |
| | 1.8 | Strategies are implemented to ensure network development is carried out efficiently |
| 2 | Install and configure internetworking systems | |
| | 2.1 | WHS/OHS risk control measures and workplace procedures for carrying out the work are followed |
| | 2.2 | Internetworking arrangements, sub-netting and routing protocols are applied to installing, configuring routers and transmission control protocol (TCP)/internet protocol (IP) addresses |
| | 2.3 | Routing protocols are selected and configured as specified for internetworking systems |
| | 2.4 | Routing, TCP/IP and access malfunctions are identified and rectified using solutions of basic internetworking arrangements and protocols |
| | 2.5 | Approaches to issues/problems are analysed to provide effective solutions |
| | 2.6 | Quality of work is monitored in accordance with workplace procedures and relevant industry standards |
| 3 | Complete documentation of internetworking systems | |
| | 3.1 | Justification for internetworking installation and configuring activities is documented and relevant person/s notified in accordance with workplace procedures |
| | 3.2 | Network services records are maintained in accordance with workplace procedures |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Installing and configuring internetworking systems must include at least the following:

between two:

- local area networks (LANs) to form a wide area network (WAN)

or

- a LAN and the internet

Unit Mapping Information

This unit replaces and is equivalent to UEENEED117A Install and configure network systems for internetworking.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEECS0023 Install and configure network systems for internetworking

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- analysing issues/problems
- applying internetworking arrangements, subnetting and routing protocols
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - using risk control measures
- engaging with relevant person/s to meet scheduled timelines
- determining internetworking installation and configuration activities
- documenting internetworking installation and configuration activities
- identifying and rectifying routing, transmission control protocol (TCP)/internet protocol (IP) and access malfunctions
- implementing strategies for network development
- installing and configuring routing and TCP/IP
- monitoring quality of work in accordance with workplace procedures and relevant industry standards
- obtaining and reviewing network cabling
- preparing to install and configure internetworking systems
- selecting development tools and software
- selecting internetworking media and software.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- router security
- router boot sequence
- router operating system management
- password recovery

- router components and interfaces
- troubleshooting at all layers
- interior and exterior routing protocols
- distance vector routing protocols
- link-state routing protocols
- routing tables
- metrics used by routing protocols to find routes
- advantages and disadvantages of distance vector and link-state routing protocols
- problem-solving techniques
- relevant development tools and software
- relevant industry standards
- relevant internetworking arrangements, sub-netting and routing protocols
- relevant internetworking performance specifications
- relevant manufacturer specifications and installation instructions
- relevant route summarisation
- relevant router configuration
- relevant routing protocols
- relevant routing, TCP/IP and access malfunctions
- relevant job safety assessments or risk mitigation processes
- relevant TCP/IP
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, including:
 - network service records
- relevant workplace instructions, quality, policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities and equipment currently used in industry
- resources that reflect current industry practices in installing and configuring networking

systems

- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>