



Australian Government

Department of Education, Employment and Workplace Relations

UEENEED149A Develop energy sector computer network applications infrastructure

Release: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers developing an applications infrastructure for energy sector enterprise computer networks. It encompasses safe working practices, deploying servers, configuring remote desktop services, configuring a web services infrastructure, configuring network application servers, documenting development activities.

Note:

This unit applies to all aspects of energy sector engineering applications only. For general competencies related to Information Technologies refer to the latest endorsed IT Training Package.

Application of the Unit

Application of the Unit 2)

This unit applies to any recognised development program that leads to the acquisition of a formal award at AQF level 6 or higher.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit do not require a license to practice in the workplace. However, practice in this unit is subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE1 01A Apply Occupational Health Safety regulations, codes and practices in the workplace

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 5 Writing 5 Numeracy 5

Employability Skills Information

Employability Skills 5)

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

- 6) Elements describe the essential outcomes of a competency standard unit. Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to develop a network applications infrastructure.	1.1 OHS processes and procedures for a given work area are identified, obtained and understood.
	1.2 Established OHS risk control measures and procedures are followed in preparation for the work.
	1.3 The extent of network application infrastructure to be developed is determined from network performance specifications and in consultation with relevant persons.
	1.4 Activities are planned to meet scheduled time lines in consultation with others involved in the work.
	1.5 Appropriate development tools and software are selected based on specified requirements and performance standard.
	1.6 Strategies are implemented to ensure network development is carried out efficiently.
2 Install, configure and manage applications infrastructure components.	2.1 OHS risk control measures and procedures for carrying out the work are followed.
	2.2 Knowledge and complexities of network applications infrastructure are applied to developing the network.
	2.3 Network applications infrastructure components in current use and installed and configured in compliance with industry standards and variants

ELEMENT

PERFORMANCE CRITERIA

as specified for the network. (See Note 1)

- 2.4 Management components of the network applications infrastructure are configured in compliance with current industry practices and requirements specified for the network.
- 2.5 Security components of network the network applications infrastructure are created in compliance with current industry practices and requirements specified for the network. (See Note 2)
- 2.6 Network malfunctions are identified and rectified using logical techniques and drawing knowledge of complex network infrastructure.
- 2.7 Network is monitored and solutions are developed to optimise network performance and reliability in accordance with established procedures.
- 2.8 Security events are analysed and actions taken in accordance with established policy.
- 2.9 Approaches to issues/problems are analysed to provide most effective solutions.
- 2.10 Quality of work is monitored against personal performance agreement and/or established organisational or professional standards.
- 3 Report network administration activities
 - 3.1 Written justification is produced for network services development activities and appropriate person/s notified in accordance with established procedures.
 - 3.2 Network applications infrastructure development records are maintained in accordance with established procedures.

Notes.

- 1. Examples of network applications infrastructure components may include Windows Deployment services, KMS servers, virtualisation, remote access services, Internet Information Server (IIS), streaming media services, Microsoft Share Point.
- 2. Examples of security components may include KMS

ELEMENT

PERFORMANCE CRITERIA

servers, certificate configurations, authorisation policies, Group Policy, SSL security.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing energy sector network services.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

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Evidence shall show an understanding of network applications infrastructure to an extent indicated by the following aspects:

T1 Deploying network servers:

- Install from media
- Use automated installation services
- Deploy servers using imaging
- Dynamic driver provisioning
- Operating system activation
- Configuring virtual servers
- Failover clustering and load balancing
- Storage technologies

T2 Remote desktop services

- Provide access to remote resources
- Configure remote application access
- Provide authorisation and single sign on (SSO)
- Remote desktop authorisation policies
- Monitor remote desktop resources
- Configure allocation of resources using resource management tools
- Configure remote desktop licensing

T3 Configure a web services infrastructure

- Configure web applications
- Manage web sites
- Manage virtual directories
- Configure web applications
- Configure FTP services
- Configure SMTP services
- Create service accounts
- Manage web server technologies
- Configure backup and restore options
- Configure certificate security
- Configure web authentication and permissions

REQUIRED SKILLS AND KNOWLEDGE

T4 Configure network application services

- Manage streaming media services
- Configure on demand replication
- Configure multicast streaming
- Secure streaming media
- Provide encryption methodologies
- Configure rights management
- Configure content management systems (CMS)
- Configure a document library
- Configure network applications

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may

be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgement.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the time frames typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
 - Demonstrate an appropriate level of skills enabling

employment

- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
- Develop energy sector network services as described in 8) and including:

- A Establishing network applications infrastructure to be developed.
- B Configuring management components of the network applications infrastructure.
- C Configuring security components of the network applications infrastructure.
- D Identifying and rectifying network malfunctions.
- E Developing solutions to optimise network performance.
- F Documenting network applications infrastructure development activities.
- G Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Note:

Successful completion of relevant vendor certification may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials

to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to developing a energy sector network applications infrastructure.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation developing and managing an applications infrastructure for energy sector enterprise computer networks to provide network clients with access to such services as web services, FTP services, virtualisation, remote access services and applications services.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field	11)
	Computer Systems