



Australian Government

ICTNWK539 Design and implement integrated server solutions

Release: 1

ICTNWK539 Design and implement integrated server solutions

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 design and implement network authentication models that allow users to log in using the same user credentials between multiple operating system platforms and that provides a secure method of file sharing on a single, shared network.

It applies to individuals working in network or systems engineering roles, where they are required to support multiple operating systems in a complex computing environment of medium-to-large organisational settings.

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. Prepare to design and install integrated server solution	1.1 Identify server integration requirements according to organisational network requirements 1.2 Determine deployment access requirements and user down times 1.3 Determine required authentication methods and protocols according to organisational network requirements 1.4 Identify additional installation preparation requirements and document preparation details according to organisational network requirements
2. Design integrated server	2.1 Analyse network operating systems integration and

ELEMENT	PERFORMANCE CRITERIA
solution	authentication methods according to network authentication model 2.2 Research redundancy and replication requirements for required authentication model 2.3 Design and document integrated server design
3. Install and configure the integrated server solution	3.1 Implement integrated authentication solution according to server design specifications 3.2 Implement integrated file sharing solution according to server design specifications 3.3 Configure required integrated environment on required user workstations 3.4 Implement required integrated server environment security according to server design specifications
4. Test and reconfigure network servers	4.1 Test server performance and document outcomes according to network requirements 4.2 Analyse documented error report and identify system errors 4.3 Diagnose and correct identified integration problems according to network requirements 4.4 Test and validate network server changes and additions against specifications
5. Document and complete network design and installation	5.1 Document server configuration and operational changes 5.2 Complete required documentation report and notification of server status 5.3 Clean up and restore worksite according to organisational requirements

Foundation Skills

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

SKILL	DESCRIPTION
Numeracy	Analyses numerical information to take measurements, interpret results and evaluate performance and interoperability of network
Reading	Interprets and analyses enterprise procedures, manuals and specifications to determine requirements
Writing	Prepares workplace documentation that incorporates an evaluation of technical information and specialised and cohesive language in a format and style required for a specific audience

SKILL	DESCRIPTION
Teamwork	Actively identifies the requirements of important communication exchanges, selecting channels, format, tone and content to suit purpose and audience
Planning and organising	Uses a combination of formal, logical planning processes and an increasingly intuitive knowledge of context to plan, prioritise and monitor own work
Problem solving	- Makes a range of decisions in relatively complex situations, taking a range of constraints into account - Initiates standard procedures and contingency management skills when responding to familiar problems to adapt configuration procedures to requirements of network and reconfigure, depending on differing operational contingencies, risk situations and environments
Self-management	Demonstrates knowledge of the implications of legal and regulatory responsibilities related to own work
Technology	Demonstrates knowledge of key principles and concepts underpinning design and operation of digital systems and tools and applies these when troubleshooting existing technology

Unit Mapping Information

Supersedes and is equivalent to ICTNWK504 Design and implement an integrated server solution.

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 ICTNWK539 Design and implement integrated server solutions

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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:

- install and configure at least two integrated server solutions according to at least two produced integrated server design documents.

In the course of the above, the candidate must:

- produce design documents required to integrate multiple server operating systems for authentication, file sharing and security
- monitor and test the solution
- troubleshoot integration problems
- test and reconfigure network servers.

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:

- authentication methods and protocols, including:
 - lightweight directory access protocol (LDAP)
 - Kerberos
- industry standard network operating systems (NOS), including:
 - operating system help and support utilities
 - network file systems and sharing
- industry standard server applications, compatibility issues and resolution procedures, including:
 - error and event logging and reporting procedures
 - file and print management
 - high availability options for servers

- network service configuration and security
- industry standard performance monitoring tools and tuning options
- process of managing a project, including:
 - process or task management
 - task scheduling utilities
- troubleshooting tools and techniques, including network diagnostic utilities
- user authentication and directory services.

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 site where server installation may be conducted
- industry standard server specifications including:
 - multiple operating system platforms
 - cabling
- networked (LAN) computers
- server diagnostic software
- switching equipment
- client requirements
- workstations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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