



Australian Government

ICTSUS502 Install and test virtual infrastructure

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to install and test virtual servers in networks. It also involves replacing multiple physical servers, reducing power requirements of individual servers and meeting sustainability targets.

It applies to individuals with a high level of specialist technical skills and knowledge in information and communications technology (ICT) networks.

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

Unit Sector

Telecommunications – sustainability

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. Plan to install virtual server	1.1 Obtain work details and scope and arrange for site access in compliance with required security arrangements, legislation, codes, regulations and standards 1.2 Analyse use of server virtualisation infrastructure and discuss implementation needs with relevant personnel 1.3 Research and analyse alternative virtualisation scenarios and produce a risk analysis and comparisons for each consideration 1.4 Create and distribute a feasibility report to required personnel and determine required resources for server implementation 1.5 Obtain recommendations and approval for implementation plans from relevant personnel and stakeholders
2. Design virtual server	2.1 Confirm network operating systems, server applications and

ELEMENT	PERFORMANCE CRITERIA
specification	server designs with relevant personnel 2.2 Determine product, vendor architecture and equipment specifications 2.3 Determine technology and resources according to business requirements and budgets 2.4 Complete design plan and obtain approval from required personnel
3. Install virtual server	3.1 Identify installation change management requirements 3.2 Create detailed task lists and specify sequence of required work 3.3 Review hardware and software and confirm compatibility with ICT system 3.4 Install required operating system, additional tools and third-party software as specified in design 3.5 Patch operating system and applications and confirm compliance with organisational security and reliability standards
4. Integrate and test virtual server	4.1 Determine virtual server integration (VSI) tests in consideration of resources and network impact 4.2 Run VSI tests according to plan and record outcomes 4.3 Create error reports and communicate test outcomes to required personnel 4.4 Test required changes and additions 4.5 Validate changes and additions against specifications
5. Document completion activities	5.1 Document installation and integration process according to organisational guidelines 5.2 Provide user documentation to required personnel 5.3 Notify required personnel and obtain sign off

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Oral communication	• Articulates using specific language suitable for technical, operational and business audiences to convey requirements • Uses listening and questioning techniques to confirm knowledge
Reading	• Identifies, analyses and evaluates technical installation manuals and other texts to determine regulatory and technical requirements

SKILL	DESCRIPTION
Writing	• Prepares reports and design solutions in required formats for diverse audiences • Conveys knowledge of outcomes and alternatives using terminology to present to required personnel
Planning and organising	• Develops plans to manage relatively complex, non-routine tasks with an awareness of how they may contribute to longer term operational and strategic goals • Takes responsibility for own workload, negotiating some key aspects with others • Systematically gathers and analyses all required information and evaluates options to make informed decisions
Problem solving	• Uses analytical processes to decide on a course of action, establishing criteria for deciding between options
Self-management	• Recognises and responds to both explicit and implicit organisational procedures and protocols, and legislative and regulatory requirements • Selects the required form, channel and mode of communication for a specific purpose required to own role
Technology	• Identifies key principles and concepts underpinning the design and operation of digital systems and tools, and applies these when troubleshooting existing technology and when seeking to identify the potential of new technology

Unit Mapping Information

Supersedes and is equivalent to ICTSUS501 Implement server virtualisation for a sustainable ICT system.

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 ICTSUS502 Install and test virtual infrastructure

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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:

- implement server virtualisation for at least two sustainable information and communications technology (ICT) systems.

In the course of the above, the candidate must:

- consider ongoing system management, growth scenarios and future infrastructure capacity
- communicate with required personnel to identify required information technology (IT) system changes and additions
- determine and meet organisational requirements for the installation and testing of virtual servers
- install, integrate and test virtualisation components according to vendor and technical specifications.

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:

- required legislation, codes, organisational procedures, company work practices, regulations and standards, work health and safety (WHS) requirements for scoped work
- uses and requirements of server virtualisation infrastructure in IT systems
- risks of alternative virtualisation scenarios
- functions and features of feasibility reports
- features of client business domains and business functions
- compatibility issues and resolution procedures for server implementation
- configuration of internet protocol (IP) networks
- industry-accepted server virtualisation products
- processes of documenting technical specifications

- systems diagnostic features
- set up and configuration procedures
- change management process
- functions and features of the following:
 - creating a budget
 - network operating systems
 - power supply requirements and management
 - registered random access memory (RAM)
 - server design and network architecture
 - single and multiple processors
 - virtual server functionality.

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 and equipment on which servers can be virtualised
- server virtualisation currently used in industry
- documentation, feasibility studies, equipment manuals and other site-related documentation.

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

Links

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