



Australian Government

Department of Education, Employment and Workplace Relations

ICTTEN6094A Verify new software and hardware releases

Release: 1

ICTTEN6094A Verify new software and hardware releases

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to verify compliance and compatibility of software and hardware to an existing system. Installation may be new software and hardware releases for an existing system or new infrastructure for convergence to Next Generation Networks NGN). No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.
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Application of the Unit

Application of the unit	Technical staff who verify new software and hardware releases apply the skills and knowledge in this unit. They may make use of software test routines and testing hardware for performance to manufacturer's and design specifications.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan the testing of new software releases	1.1. Obtain manuals, specifications and instructions associated with new releases and identify areas of uncertainty for confirmation with the vendor 1.2. Plan the testing environment of the software release and likely impact with network management centre 1.3. Determine resources required to assist with the test and negotiate their availability 1.4. Determine and plan outage and notify network management centre as required 1.5. Notify customers of impact on the network during the test 1.6. Develop contingency plans to cater for likely problems during the test
2. Test software and hardware units	2.1. Load new software and conduct tests using appropriate test equipment according to vendor specifications 2.2. Evaluate test results to assess functionality and features of software and hardware according to vendor documentation 2.3. Test compatibility with existing network and take corrective action with vendor as required 2.4. Implement contingency plans in conjunction with network management if integrity of the network is compromised by the new release
3. Undertake administrative work	3.1. Document test results and store according to enterprise policy 3.2. Discuss ongoing or likely problems with the vendor and initiate follow up arrangements to ensure a permanent solution 3.3. Provide clearance for software and hardware release to be put in service in the system according to enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

REQUIRED SKILLS AND KNOWLEDGE**Required skills**

- communication skills to interact with enterprise personnel, customers and other contractors, while maintaining a customer focus and consideration of customer needs
- literacy skills to interpret technical documentation, such as software and hardware manuals, specifications and relevant enterprise policy and documentation
- numeracy skills to take and analyse measurements
- planning and organisational skills to organise testing and contingency plans
- problem solving skills to solve software, hardware and logistics problems
- safety awareness skills to follow occupational health and safety (OHS) requirements and work practices
- task management skills to work systematically with required attention to detail
- technical skills to:
 - conduct tests on software and hardware units
 - load software
 - use diagnostic programs and equipment

Required knowledge

- features and operating requirements of testing routines and equipment, key performance indicators (KPIs) and service level agreements
- information required to operate software and hardware according to a test specification
- manufacturer's requirements for operation of equipment
- specific organisational requirements relating to the activity and site conditions
- system maintenance and upgrade procedures, codes of practice and other formal agreements that impact on the work activity
- test methods, performance and integration requirements
- typical issues and challenges that occur with new software and hardware releases

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- develop a plan for testing new software releases including functionality and performance under load conditions
- develop a contingency plan recognising potential causes of problems and impact on service levels
- test compatibility of software and hardware with existing system
- analyse impact of integration of new hardware and software release on the network and make recommendations for improvement.

Context of and specific resources for assessment

Assessment must ensure:

- a system to verify compliance and compatibility of software and hardware
- test equipment currently used in industry
- systems manuals, vendor specifications and enterprise policy.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate testing compatibility of software and hardware with existing system and analysing problems arising
- review of test regime, including test results with analysis and improvement recommendations prepared by the candidate
- review of contingency plan prepared by candidate
- oral or written questioning of the candidate to assess knowledge of test methods, performance and integration requirements.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICTTEN6045A Implement planned network changes

EVIDENCE GUIDE

	with minimal impact to the customer. Aboriginal people and other people from a non-English speaking background may have second language issues. Access must be provided to appropriate learning and assessment support when required. Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. Where applicable, physical resources should include equipment modified for people with special needs.
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Testing environment may include:

- live as a pilot
- simulated controlled environment
- staged
- variables:
 - availability of suitable location for testing

RANGE STATEMENT	
	• compatibility of existing software and hardware • nature of the release • operational environment involved • risks and uncertainty involved.
Tests may include:	• error check • full system • load testing of new system • performance • software performance using independent third party software • switching • traffic flow • transmission • transmitter power.
Test equipment may include:	• communication testers • network manager • protocol analyser • transmission measuring sets.
Compatibility may include affect on:	• network • network management tools • new vendor network elements.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Telecommunications networks engineering
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