



Australian Government

Department of Education, Employment and Workplace Relations

ICTTEN7223A Manage application layer solutions

Release: 1

ICTTEN7223A Manage application layer solutions

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to develop, evaluate, manage deployment and maintain currency of applications layer solutions for a telecommunications service provider. This involves integration of new solutions to an existing network and the management of change implementation. 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	Network engineering staff or senior technical officers with appropriate project management roles and authority to direct the activities of installation staff, manufacturers and vendors apply the skills and knowledge in this unit. This unit applies to service provider network infrastructure implementing new applications layer solutions.
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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. Develop application layer solutions	1.1. Produce the requirements for applications layer solutions for delivery of new applications layer solutions to customers using forecasting demand data 1.2. Prepare a plan for an organisational change control process and the integration of new solutions within a complete network infrastructure 1.3. Produce a test management schedule for the testing process of the application product 1.4. Translate complex design and architecture requirements to traceable application characteristics according to design requirements 1.5. Develop application architecture solution specifications using an industry process according to design requirements 1.6. Develop application software resource profiling and select suitable vendor for negotiations 1.7. Translate complex requirements into software packaging 1.8. Produce software deployment mapping and version control to ensure complete integration and compatibility of application solution to existing system 1.9. Complete configuration management and provide complex input network design requirements
2. Analyse test results of application layer solutions	2.1. Use design document and integration document software to replicate issues exhibited in test environment 2.2. Certify software solution compatibility and compliance to requirements using a web-based test management tool (quality centre) to conduct performance evaluation tests 2.3. Analyse test reports to evaluate load balancing and network security issues in test environment 2.4. Resolve complex issues in interface to isolate defects
3. Manage deployment of application layer solutions	3.1. Plan and prepare evidence for customer acceptance and certification 3.2. Plan and manage transition to operation activities required for transition to operation of integrated application layer solution 3.3. Prepare an installation failures procedure to make

ELEMENT	PERFORMANCE CRITERIA
	changes whilst maintaining service levels 3.4. Manage change implementation plan to maintain system stability
4. Maintain currency of application layer solutions	4.1. Manage ongoing monitoring activities to prolong new applications layer solution life cycle for cost-effective business reasons 4.2. Produce tuning activities to make efficient use of resources 4.3. Analyse the current demands for resources for deriving forecasts and future requirements 4.4. Produce a capacity plan predicting the infrastructure resources needed to achieve agreed service levels

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- analytical skills to evaluate test results of application layer solutions
- communication skills to:
 - interact with enterprise personnel, customers and other contractors, while maintaining a customer focus and consideration of customer needs
 - liaise with internal and external personnel on technical and operational matters
- literacy skills to:
 - prepare reports given a specific format
 - read and interpret technical documentation, software and hardware manuals, specifications and relevant enterprise policy
- numeracy skills to take and analyse measurements
- PC skills to use a word processor to translate enterprise and technology issues into system requirements
- planning and organisational skills to:
 - manage and prioritise own work
 - organise testing and deployment of application layer solutions
- problem solving skills to resolve logistics problems
- safety awareness skills to follow all related occupational health and safety (OHS) requirements and work practices
- task management skills to work systematically with required attention to detail and

REQUIRED SKILLS AND KNOWLEDGE

- adherence to project requirements
- technical skills to:
 - develop application architecture solution specifications
 - manage deployment of application layer solutions
 - manage transition to operation activities
 - provide complex input network design requirements

Required knowledge

- installation failure procedures
- legislation, codes of practice and other formal agreements that directly impact on activity
- manage change
- new applications layer solutions
- software and hardware resources
- specific OHS requirements that impact on activity in terms of safety of self and public safety
- system integration techniques
- test management scheduling
- tuning activities to maintain currency
- use of forecasting demand data
- use of test management tools

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:

- produce a test management schedule for the testing process of the application product
- develop application architecture solution specifications using an industry process
- produce software deployment mapping and version control
- analyse test results of application layer solutions
- prepare evidence for customer acceptance and certification
- prepare an installation failures procedure
- manage ongoing monitoring activities
- produce tuning activities
- produce a capacity plan predicting the infrastructure resources needed.

Context of, and specific resources for assessment

Assessment must ensure:

- site where the management of application layer solutions may be conducted
- software tools currently used in industry
- vendor products, specifications, equipment and enterprise policy required for the activity.

Methods 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 managing the deployment of application layer solutions
- direct observation of the candidate performing a systematic approach to test and analysis of complex issues arising
- review of performance evaluation tests, software deployment mapping, plans and evidence for customer acceptance, prepared by the candidate
- oral or written questioning of the candidate to assess required knowledge.

EVIDENCE GUIDE**Guidance information for assessment**

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

- ICTTEN7224A Manage voice, data and internet protocol network solutions.

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.

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.

Requirements for applications layer

- diagnostic software tools
- hardware resources

RANGE STATEMENT	
<i>solutions</i> may include:	• management software tools • protocols • software resources.
<i>New applications layer solutions</i> may include:	• internet protocol (IP) games • internet protocol TV (IPTV) • mesh network applications • mobile voice over internet protocol (VoIP) • multicast mobile applications • multimedia products • web applications.
<i>Forecasting demand data</i> may be:	• collected from: • customers: • actual • prospective • economic planners • internal organisational groups • local • marketing organisations • real estate agents • sales organisations • state and federal governments • statutory bodies • traffic management systems • in relation to: • access transport planning • changing customer use patterns • demographic changes • economic forecasts • industry trends • influence of technology on traffic demand • land developments • local industry • market conditions • marketing programs • population trends • possible environmental impacts • power re-zoning • sales forecasts

RANGE STATEMENT	
	• shire planning • traffic patterns.
Integration of new solutions may include:	• no contentions • protocol compatibility • software compatibility • system interoperability.
Test management schedule may include:	• post-installation test procedures • pre-installation test procedures • produces test summary report • profiling of application solution • risk defects report • simulation testing • test process is testable for application built.
Industry process may include:	• complex architectural input • complex constructor table input • idea consultation.
Integration document software may include:	• fine-tuning capabilities in multi-operating environments • integration with existing system • links to legacy systems.
Performance evaluation tests may include:	• defects: • defects detected are logged and mapped to failed cases • releases: • manage software releases and iterations • requirements: • traceability • management • test lab: • execute test cases from test plan • test plan: • creating and updating test cases.
Transition to operation activities include:	• installation procedures • operations and maintenance (OM) expenses • OM • project scope • schedule and milestones • training procedures.

RANGE STATEMENT	
<i>Change implementation</i> plan may include:	• back out procedures • pre-validate changes prior to the change to assess environment stability • test process pre/post scheduled change to identify success.
<i>Monitoring activities</i> may include:	• current and future capacity • current and future performance • throughput of the infrastructure components.
<i>Tuning activities</i> may include:	• configuration settings • database performance tuning • network settings.

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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