



Australian Government

Department of Education, Employment and Workplace Relations

ICAS5104B Determine maintenance strategy

Release: 1

ICAS5104B Determine maintenance strategy

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit defines the competency required to determine and operationalise maintenance strategies and supporting processes to achieve continuity of IT operations and business functions.</p> <p>The following units are linked and form an appropriate cluster:</p> <ul style="list-style-type: none">• ICAS5111B Review and manage delivery of maintenance services <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		
	ICAT3025B	Run standard diagnostic tests

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. Identify and analyse maintenance needs	1.1. Identify risks to business continuity due to system malfunction including quantification of possible loss 1.2. Identify core business functions and determine the service requirements for those functions 1.3. Develop a maintenance philosophy to meet business needs and apply it to dealings with the <i>client</i>
2. Identify and analyse IT system components to be maintained	2.1. Review <i>systems architecture</i> and configuration documentation for currency 2.2. Conduct an <i>equipment</i> and/or <i>software</i> audit if appropriate information is not available 2.3. Determine and document the warranty status of <i>components</i> and/or <i>software</i> according to vendor, project or organisational requirements 2.4. Identify critical <i>components</i> and/or <i>software</i> and document recommendations regarding possible service arrangements
3. Develop service level agreements	3.1. Determine the views and requirements of the <i>client</i> in order to identify maintenance requirements 3.2. Prepare <i>service-level agreements</i> to match client user and business requirements
4. Formulate maintenance strategy	4.1. Examine maintenance options against cost constraints, risks to business continuity and <i>service-level agreements</i> 4.2. Identify a specific maintenance strategy based on cost, business and <i>service-level agreements</i> requirements 4.3. Create a preventative maintenance schedule based on cost, business and <i>service-level agreements</i> requirements 4.4. Negotiate a maintenance strategy with <i>client</i> and make changes to <i>service-level agreements</i> where necessary 4.5. Document the recommended procedure for approval from <i>appropriate person</i> according to organisational requirements
5. Define client and supplier processes and standards	5.1. Negotiate and create reporting procedures for service requests with <i>client</i> and suppliers 5.2. Determine response time standards with <i>client</i> and suppliers 5.3. Create escalation procedures with <i>client</i> and

ELEMENT	PERFORMANCE CRITERIA
	<p>suppliers</p> <p>5.4. Set-up the help desk or other support function in accordance with agreed standards and procedures and in line with industry best practices</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Problem solving skills for a range of unpredictable problems involving IT-based equipment used for client's business activities
- Ability to analyse current system practices and system composition and to suggest improvements to them, as part of the development of strategic initiatives
- Communication skills in relation to analysis, evaluation and presentation of information
- Teamwork skills involve the contribution to solutions and goals of a non-routine or contingency nature, such as problems that may appear in a networked PC environment (LAN and WAN), particularly with newly installed equipment
- Presentation skills in relation to providing information (e.g. reporting and making recommendations on new models of component maintenance schedules in response to perhaps pre-existing inadequate measures)
- Negotiation skills in relation to clients and applied to a defined range of predictable problems related to maintenance of client equipment
- Report writing skills for business, involving analysis and evaluation of information in such areas as maintenance schedules for IT equipment, level of service required, SLA, cost and viability, response time levels, escalation procedures with clients, warranty conditions with suppliers and presenting proposals for improvements to the servicing system in general
- Change management skills in relation to maintaining the continuity of IT operations and business functions, in carrying out upgrading of the system in its service levels or repair or replacement of equipment or software, in order to avoid unnecessary disruption to client business activities
- Customer service skills in relation to maintaining the continuity of IT operations and business functions.
- Communication and conflict resolution skills for handling difficult clients
- Risk analysis skills in relation to maintaining the continuity of IT operations and business functions

REQUIRED SKILLS AND KNOWLEDGE**Required knowledge**

- Broad knowledge of help desk and maintenance practices, such as general composition and operation of information database for tracking hardware, software and operational issues, such as troubleshooting, repair and warranty. Also, knowledge of determining level of support to a client (e.g. support levels one to four)
- Current industry-accepted hardware and software products, with broad knowledge of general features and capabilities and detailed knowledge in areas pertaining to particular client business activity. (e.g. help desk software, including a database for storing hardware and software details, product warranty and service difficulty records, such as repair, replacement and reconfiguration)
- General knowledge of the relationships between the stakeholders and the service provider. This includes knowing the rights of the stakeholder and the obligations of the learner inferred by the contract of service
- Broad knowledge of the client business domain and of the features of the IT system that support the client's business activity
- Detailed knowledge of how the system has been set up to process data and what data elements are stored
- Broad knowledge of quality assurance practices with reference to maintenance, warranty and repair of network equipment and software

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 following is essential:

- Assessment must confirm the ability to determine maintenance strategies and support processes for maintaining the continuity of IT operations and business functions that relate directly to the core and other business support functions.

To demonstrate competency in this unit the learner will require access to:

- Systems architecture documentation
- Warranty documents

Context of and specific resources for assessment

This competency provides for both the determination of an appropriate level of IT technical support and re-evaluation of the current service agreement for a client. The underlying principle is one of quality assurance and service provision to the client.

The breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination would be characteristic.

The demonstration of competency may also require self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.

Assessment must ensure:

- Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical

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	operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may also be involved.
Method of assessment	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> ICAS5111B Review and manage delivery of maintenance services <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> Demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with

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	<p>substantial depth in some areas</p> <ul style="list-style-type: none"> Analyse and plan approaches to technical problems or management requirements Transfer and apply theoretical concepts and/or technical or creative skills to a range of situations Evaluate information, using it to forecast for planning or research purposes Take responsibility for own outputs in relation to broad quantity and quality parameters Take some responsibility for the achievement of group outcomes Maintain knowledge of industry products and services
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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.

Client may include but is not limited to:

- internal departments
- external organisations
- individual people
- employees

Equipment may include but is not limited to:

- workstations
- personal computers
- modems or other connectivity devices
- printers
- DSL modems
- hard drives
- monitors
- switches
- hubs
- personal digital assistant (PDA)
- other peripheral devices

RANGE STATEMENT	
<i>Systems architecture</i> may include but is not limited to:	<ul style="list-style-type: none"> • Operating system: Novell NetWare 5 or above or operating system that has multi-user ability, Linux, Mac OS, Windows 2000 or above • Database software: Oracle, Sybase, Microsoft SQL server, Ingres, DB2, Informix, mSQL, MySQL, SQL server • Configuration: small memory model, large memory model, requests per second
<i>Software</i> may include but is not limited to:	<ul style="list-style-type: none"> • commercial, in-house, packaged or customised software
<i>Components</i> may include:	<ul style="list-style-type: none"> • motherboards • CMOS battery • central processing unit (CPU) • CD and DVD drives • interface cards • drives • fax/modem cards • RAM upgrades • CPU upgrades
<i>Service-level agreement</i>	<ul style="list-style-type: none"> • May exist for many different infrastructure services, including communications carriers, ISPs, ASPs and SLAs for vendor products. • SLAs should consider business processes and requirements, clearly specify and quantify service levels, identify evaluation or audit of service levels. May include workload and performance considerations, expectations regarding servicing, penalties, charge back to business units.
<i>Appropriate person</i> may include:	<ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client

Unit Sector(s)

Unit sector	Support
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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