



Australian Government

Department of Education, Employment and Workplace Relations

ICASAS510A Review and develop IT maintenance strategy

Release: 1

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Modification History

| Release | Comments |
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| Release 1 | This Unit first released with <i>ICALL Information and Communications Technology Training Package version 1.0</i> |

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to review, develop and set up maintenance strategies and supporting processes to achieve continuity of IT operations and business functions.

Application of the Unit

This unit applies to frontline technical support personnel, such as IT support technicians, and user support specialists responsible for maintaining computer equipment in an organisation.

Licensing/Regulatory Information

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.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

| Element | Performance Criteria |
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| <i>Elements describe the essential outcomes of a unit of competency.</i> | <i>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.</i> |

Elements and Performance Criteria

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| 1. Identify and analyse maintenance needs | <p>1.1 Identify risks to business continuity due to system malfunction, including quantification of possible loss</p> <p>1.2 Identify core business functions and determine the service requirements for those functions</p> <p>1.3 Develop a maintenance philosophy to meet business needs and apply it to dealings with the <i>client</i></p> |
| 2. Identify and analyse IT system components to be maintained | <p>2.1 Review <i>systems architecture</i> and configuration documentation for currency</p> <p>2.2 Conduct an <i>equipment</i> and <i>software</i> audit if appropriate information is not available</p> <p>2.3 Determine and document the warranty status of <i>components</i> and software according to vendor, project or organisational requirements</p> <p>2.4 Identify critical components and software and document recommendations regarding possible service arrangements</p> |
| 3. Develop service level agreements | <p>3.1 Determine the views and requirements of the client in order to identify maintenance requirements</p> <p>3.2 Prepare <i>service level agreements</i> (SLAs) to match client user and business requirements</p> |
| 4. Formulate maintenance strategy | <p>4.1 Examine maintenance options against cost constraints, risks to business continuity and SLAs</p> <p>4.2 Identify a specific maintenance strategy based on cost, business and SLA requirements</p> <p>4.3 Create a preventative maintenance schedule based on cost, business and SLA requirements</p> <p>4.4 Negotiate a maintenance strategy with client and make changes to SLAs where necessary</p> <p>4.5 Document the recommended procedure for approval from <i>appropriate person</i> according to organisational requirements</p> |
| 5. Define client and supplier processes and standards | <p>5.1 Negotiate and create reporting procedures for service requests with client and suppliers</p> <p>5.2 Determine response time standards with client and suppliers</p> <p>5.3 Create escalation procedures with client and suppliers</p> <p>5.4 Set up the help desk or other support function according to agreed standards and procedures and in line with industry best practices</p> |

Required Skills and Knowledge

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

Required skills

- analytical skills to analyse current system practices and system composition and to suggest improvements to them, as part of the development of strategic initiatives
- change-management skills to maintain the continuity of IT operations and business functions, in carrying out system upgrade in its service levels, or repair or replacement of equipment or software
- communication skills to:
 - liaise with customers in the provision of customer services
 - provide information, report and make recommendations on new models of component maintenance schedules in response to pre-existing inadequate measures
- initiative and enterprise skills to work as a team member in the development of solutions and goals of a non-routine or contingency nature
- literacy skills to:
 - evaluate and present information
 - write technical reports 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
- planning and organisational skills to contribute to maintenance and continuity of IT operations and business functions
- problem-solving skills to participate in development of maintenance strategies
- technical skills to determine level of support to a client.

Required knowledge

- client business domain and of the features of the IT system that support the client's business activity
- current industry-accepted hardware and software products, such as help-desk software, including:
 - database for storing hardware and software details
 - product warranty and service difficulty records, such as repair, replacement and reconfiguration
- help desk and maintenance practices, including general composition and operation of information database for tracking hardware, software and operational issues
- how the system has been set up to process data and what data elements are stored
- quality assurance practices with reference to maintenance, warranty and repair of network equipment and software
- relationships between the stakeholders and the service provider.

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.

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| Overview of assessment | |
| Critical aspects for assessment and evidence required to demonstrate competency in this unit | <p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • determine maintenance strategies • put in place support processes for maintaining the continuity of IT operations and business functions. |
| Context of and specific resources for assessment | <p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • systems architecture documentation • warranty documents • appropriate learning and assessment support when required • modified equipment for people with special needs. |
| Method of assessment | <p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning to assess knowledge of: <ul style="list-style-type: none"> • SLAs • industry support strategies • preventative maintenance • review of: <ul style="list-style-type: none"> • preventative maintenance schedule • SLAs • help-desk procedures. |
| Guidance information for assessment | <p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p> |

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.

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| <i>Client</i> may include: | <ul style="list-style-type: none"> • employee • external organisation • individual • internal department. |
| <i>Systems architecture</i> may include: | <ul style="list-style-type: none"> • configuration: <ul style="list-style-type: none"> • large memory model • requests per second • small memory model • database software: <ul style="list-style-type: none"> • DB2 • Informix • Ingres • Microsoft Structured Query Language (MS SQL) server • Mini SQL (mSQL) • MySQL • Oracle • Sybase • operating system: <ul style="list-style-type: none"> • Linux • Mac OS • multi-user ability • Novell NetWare 5 or above • Windows 2000 or above. |
| <i>Equipment</i> may include: | <ul style="list-style-type: none"> • hard drives • hubs • modems or other connectivity devices, such as digital subscriber line (DSL) modems • monitors • other peripheral devices • personal computers • personal digital assistant (PDA) • printers • switches |

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| | <ul style="list-style-type: none"> workstations. |
| Software may include: | <ul style="list-style-type: none"> commercial customised in-house packaged. |
| Components may include: | <ul style="list-style-type: none"> CD and DVD drives central processing unit (CPU) complementary metal oxide semiconductor (CMOS) battery CPU upgrades drives fax or modem cards interface cards motherboards random access memory (RAM) upgrades. |
| Service level agreements may include: | <ul style="list-style-type: none"> business processes and requirements charge back to business units different infrastructure services, including communications carriers, internet service providers (ISPs), application service providers (ASPs) and SLAs for vendor products evaluation or audit of service levels expectations regarding servicing penalties specific and quantity service levels workload and performance considerations. |
| Appropriate person may include: | <ul style="list-style-type: none"> authorised business representative client supervisor. |

Unit Sector(s)

Systems administration and support