



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICASAS205A Maintain IT system integrity**

**Release: 1**

## ICASAS205A Maintain IT system integrity

### Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAI1 Information and Communications Technology Training Package version 1.0</i>

### Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to protect and secure stand-alone or client server environments.

### Application of the Unit

This unit applies to technical support personnel who are required to protect and secure equipment and software in a small or large office environment. Maintaining system integrity through backup and recovery procedures, virus security and implementing licensing and copyright requirements are key components of any information and communications technology (ICT) environment.

### 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
<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

1. Carry out system backup	1.1 Create and review organisational <b>backup schedule</b> 1.2 Determine <b>storage media</b> and <b>hardware</b> for backups 1.3 Ensure backups are carried out according to the schedule 1.4 Label and store backups according to <b>organisational standards</b> 1.5 Maintain records of backups
2. Restore system backup	2.1 Determine and test restoration procedures according to organisational standards 2.2 Restore data under instruction from an <b>appropriate person</b> 2.3 Restore data according to organisational standards 2.4 Document and report on backup results
3. Maintain virus protection	3.1 Maintain and update <b>virus protection</b> software according to <b>operating system</b> in use 3.2 Carry out virus scanning and report detected viruses to appropriate person 3.3 Remove viruses and update scanning software
4. Follow copyright procedures and record software licences where appropriate	4.1 Identify <b>licensed software</b> used by the organisation 4.2 Maintain records of licence number and location 4.3 Monitor operation and use of licensed software where applicable 4.4 Check personal computers and networks to ensure software compliance 4.5 Report licensing anomalies related to <b>software</b> to an appropriate person

## Required Skills and Knowledge

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

### Required skills

- communication skills to:
  - clarify instructions
  - communicate with peers and supervisors
  - present information
  - seek assistance and expert advice
- literacy skills to:
  - interpret user manuals, technical documentation and help functions
  - read and write basic workplace documents
- problem-solving skills to address common operational problems when carrying out system backup and recovery
- technical skills to perform:
  - backup and recovery operations
  - basic diagnostic tests in system integrity.

### Required knowledge

- broad knowledge of:
  - organisational standards regarding:
    - backup and recovery procedures and operations
    - label and store backups
  - current industry-accepted hardware and software products
  - current viruses and protection methods
  - diagnostic tools
  - inventory procedures
  - maintenance procedures
  - storage and retrieval guidelines
  - system performance
- software copyright and general public licence (GPL) or copyright responsibilities.

## 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.*

<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• protect and secure stand-alone or networked client-server environments and operating systems according to system maintenance procedures</li> <li>• undertake system and file backup, recovery delete and archive according to backup and recovery procedures</li> <li>• check computers to ensure software compliance.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> <li>• sites with a representative range of stand-alone and networked client-server environments and operating systems</li> <li>• antivirus software</li> <li>• technical records and documentation</li> <li>• appropriate learning and assessment support when required.</li> </ul> <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
<b>Method of assessment</b>	<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"> <li>• direct observation of candidate undertaking file backup and recovery</li> <li>• direct observation of candidate performing virus scans and virus removal</li> <li>• review of documented reports on backup results</li> <li>• review organisational backup schedules</li> <li>• review software licence records</li> <li>• verbal or written questioning to assess candidate’s knowledge of maintaining and updating virus protection software and checking computers for software copyright compliance.</li> </ul>
<b>Guidance information for assessment</b>	<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>
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## 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.

<b>Backup schedule</b> may occur:	<ul style="list-style-type: none"> <li>• evenings</li> <li>• weekdays</li> <li>• weekends</li> <li>• monthly</li> <li>• yearly</li> <li>• or a combination.</li> </ul>
<b>Storage media</b> may include:	<ul style="list-style-type: none"> <li>• CD and DVD</li> <li>• external storage devices, such as universal serial bus (USB) flash drive</li> <li>• internal storage devices.</li> </ul>
<b>Hardware</b> may include:	<ul style="list-style-type: none"> <li>• networked systems</li> <li>• personal computers</li> <li>• tools to perform tape backups.</li> </ul>
<b>Organisational standards</b> may include:	<ul style="list-style-type: none"> <li>• backup procedures</li> <li>• GPL and copyright licences</li> <li>• reporting of non-compliant software</li> <li>• restore and security procedures</li> <li>• software licence documentation</li> <li>• virus scanning and removal procedures.</li> </ul>
<b>Appropriate person</b> may include:	<ul style="list-style-type: none"> <li>• authorised business representative</li> <li>• client</li> <li>• supervisor</li> <li>• system administrator.</li> </ul>
<b>Virus protection</b> may include:	<ul style="list-style-type: none"> <li>• freeware</li> <li>• online</li> <li>• open source</li> <li>• proprietary software:                             <ul style="list-style-type: none"> <li>• BitDefender</li> <li>• CA Vet Antivirus</li> <li>• Kaspersky Antivirus</li> <li>• McAfee VirusScan</li> <li>• Panda Antivirus</li> <li>• Symantec Norton Antivirus.</li> </ul> </li> </ul>

<p><b><i>Operating system</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• GNUs Not Unix (GNU)</li> <li>• Linux</li> <li>• Mac OS X</li> <li>• Microsoft Windows</li> <li>• Unix-like operating systems:             <ul style="list-style-type: none"> <li>• HP-UX</li> <li>• IBM AIX</li> <li>• Silicon Graphics IRIX</li> <li>• Sun Solaris.</li> </ul> </li> </ul>
<p><b><i>Licensed software</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• corporate licences</li> <li>• educational licences</li> <li>• freeware</li> <li>• open source</li> <li>• shareware licences</li> <li>• single-user licences</li> <li>• user-restrictive licences.</li> </ul>
<p><b><i>Software</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• application:             <ul style="list-style-type: none"> <li>• database</li> <li>• internet browser</li> <li>• spreadsheet</li> <li>• word-processing</li> </ul> </li> <li>• commercial</li> <li>• customised</li> <li>• in-house</li> <li>• programming:             <ul style="list-style-type: none"> <li>• assembler</li> <li>• compiler</li> <li>• development tools</li> </ul> </li> <li>• system:             <ul style="list-style-type: none"> <li>• computer security</li> <li>• device drivers</li> <li>• operating system.</li> </ul> </li> </ul>

## Unit Sector(s)

Systems administration and support