



Australian Government

Department of Education, Employment and Workplace Relations

ICAS3120C Configure and administer a network operating system

Release: 1

ICAS3120C Configure and administer a network operating system

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit defines the competency required to create the network configuration required by a client and to set up and use administrative tools to manage the network.</p> <p>The following units are linked and form an appropriate cluster:</p> <ul style="list-style-type: none"> • ICAT3025B Run standard diagnostic tests <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		
	ICAI3020B	Install and optimise operating system software
	ICAS3032B	Provide network systems administration

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. Review network policies	1.1. Review <i>organisational policies</i> for <i>network</i> use and administration arrangements 1.2. Identify <i>network</i> administration tools both built into the <i>network operating system</i> and third-party tools that can be used to enforce <i>organisational policies</i> 1.3. Determine and document settings and parameters that should be used in order to meet policies and procedures 1.4. Make necessary recommendations to <i>appropriate person</i> for ways of overcoming weaknesses in administration tools
2. Create an interface with existing system	2.1. Identify and document the current <i>system</i> and <i>components</i> and configuration through audits of <i>hardware</i> and <i>software</i> 2.2. Identify and map <i>system</i> interaction by identifying what data is required by particular <i>users</i> and how often the data is accessed 2.3. Examine existing <i>applications</i> and plan required upgrades/reconfigurations to new <i>system</i> or <i>applications</i> 2.4. Test reconfiguration for successful interface with existing <i>system</i>
3. Set up and manage the network file system	3.1. Evaluate the <i>network</i> requirements of the <i>user</i> and design an appropriate file and folder structure 3.2. Create the designed file and folder structure using appropriate administration and <i>system</i> tools 3.3. Set the security, access and sharing of <i>file system</i> to meet <i>user</i> requirements 3.4. Identify and implement the virus protection requirements for the <i>network</i> in line with organisational procedures 3.5. Test the <i>file system</i> to ensure that appropriate access is available to the <i>user</i> groups 3.6. Document the created <i>file system</i> in accordance with organisational standards
4. Manage user services	4.1. Evaluate the <i>network</i> requirements of the <i>user</i> and design an appropriate set of services that should be provided 4.2. Implement the services required by using the appropriate administration and system tools

ELEMENT	PERFORMANCE CRITERIA
	4.3. Create users and groups as required to facilitate <i>user</i> security and <i>network</i> access in accordance with <i>user</i> authorisation 4.4. Test successful access by <i>users</i> to authorised <i>network</i> data and resources and record outcomes
5. Monitor user accounts	5.1. Modify default <i>user</i> settings to ensure that they match security policies 5.2. Modify existing <i>user</i> settings for non-compliant security according to security and access policies 5.3. Check that appropriate legal notices at log on are displayed 5.4. Use appropriate utilities to check strength of passwords 5.5. Review procedures and take action to ensure that <i>users</i> who leave the organisation or area have their accounts disabled or deleted 5.6. Use <i>information services</i> to identify well-known and up-to-date security gaps and secure these with appropriate <i>hardware</i> and <i>software</i>
6. Provide and support backup security	6.1. Scan and, if required, clean the <i>network</i> of viruses before <i>back-up</i> 6.2. Review security requirements for <i>users</i> and data to be stored on <i>network</i> 6.3. Determine risks to which data is exposed and provide appropriate prevention and recovery processes 6.4. Implement <i>systems</i> to provide <i>back-up</i> and service restoration capability in the event of a disaster 6.5. Document and disseminate the disaster recovery procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Effective communication skills in relation to dealing with clients and team members (e.g. informing a client of certain technical procedures, such as virus checking a disk), with the ability to adapt the explanation of technical concepts to

REQUIRED SKILLS AND KNOWLEDGE

the level that is appropriate to the background knowledge of the client

- Administering and configuring network operating system
- Being able to undertake open-ended questioning techniques and to exercise active listening skills in relation to dealing with clients and team members (e.g. eliciting information for network troubleshooting)

Required knowledge

- Network operating systems that are currently industry standards, and knowing where to access the various system administration tools, as well as third-party tools that may be useful for monitoring various aspects of network performance or traffic
- Networking technologies, with broad knowledge of their general features and capabilities (e.g. AppleTalk, Ethernet, Novell, Linux)
- How network security is implemented in a LAN, such as users and groups settings, as well as setting file and folder permissions
- How anti-virus software operates, how to install it and the importance of undertaking regular and timely updates, such as that of the virus data file or a newer version of the virus search engine

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Assessment must confirm knowledge of the facilities available in the operating environment. • Assessment must confirm the ability to use network administrative tools and manage a network. • Assessment must confirm the ability to create the network configuration required by the client and provide timely client service. <p>To demonstrate competency in this unit the learner will require access to:</p> <ul style="list-style-type: none"> • User network requirements • Network administration tools • Access policy • Live network • Server
Context of and specific resources for assessment	<p>Many organisations rely heavily on computer network infrastructure to enhance the efficiency of their activities. Consequently, it is imperative that their networks be maintained to reflect current design and usage and that no security breaches adversely affect the system. This requires constant monitoring and reviewing of the network, in order to keep up with new functionality, added workload in network traffic and new virus protection measures.</p> <p>The breadth, depth and complexity of knowledge and skills in this competency would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.</p>

EVIDENCE GUIDE	
	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints would be characteristic. • Applications may involve some responsibility for others. Participation in teams including group or team coordination may 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	Holistic assessment with other units relevant to the

EVIDENCE GUIDE	
assessment	<p>industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICAT3025B Run standard diagnostic tests <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> • Demonstrate relevant administration skills and an understanding of the theoretical knowledge underpinning the network operating system • Apply a range of well-developed configuration skills to resolve problems • Apply known solutions to a variety of predictable configuration problems • Interpret available network systems knowledge and information, using discretion and judgement <p>Additionally, an individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> • Demonstrate some relevant theoretical knowledge • Apply a range of well-developed skills • Apply known solutions to a variety of predictable problems • Perform processes that require a range of well-developed skills where some discretion and judgement is required • Interpret available information, using discretion and judgement • Take responsibility for own outputs in work and learning • Take limited responsibility for the output of others • Maintain knowledge of industry products and services

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**

RANGE STATEMENT	
<p>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.</p>	
<p><i>Network</i> may include but is not limited to:</p>	<ul style="list-style-type: none"> • large and small LANs • WANs • VPNs • the internet • the use of the PSTN for dial-up modems only • private lines • data • voice
<p><i>Appropriate person</i> may include:</p>	<ul style="list-style-type: none"> • supervisor • teacher • authorised business representative • client
<p><i>Network operating system</i> may include but is not limited to:</p>	<ul style="list-style-type: none"> • Novell NetWare 5 or above or any operating system that has multi-user ability • Linux • Mac OS • Windows 2000 or above
<p><i>Organisational policies</i> may include but are not limited to:</p>	<ul style="list-style-type: none"> • how and what the organisation will operate • maintenance policy • security policy • diagnostic policy • OH&S policy
<p><i>System</i> may include but is not limited to:</p>	<ul style="list-style-type: none"> • network • application • software • business • computers • financial system • management system • information system
<p><i>Components</i> may include:</p>	<ul style="list-style-type: none"> • motherboards • CMOS battery • central processing unit (CPU) • CD and DVD drives • interface cards

RANGE STATEMENT	
	<ul style="list-style-type: none"> • drives • fax/modem cards • RAM upgrades • CPU upgrades
<i>Software</i> may include but is not limited to:	<ul style="list-style-type: none"> • Commercial, in-house, packaged or customised software
<i>Hardware</i> may include but is not limited to:	<ul style="list-style-type: none"> • workstations • personal computers • modems or other connectivity devices • networks • DSL modems • remote sites • servers
<i>User</i> may include:	<ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party
<i>Applications</i> may include:	<ul style="list-style-type: none"> • database programs • word processors • email programs • internet browsers • system browsers • spreadsheets
<i>File system</i> may involve:	<ul style="list-style-type: none"> • multiple or single servers • multiple or single logical disks and complex directory • folder structures
<i>Information services</i> may include:	<ul style="list-style-type: none"> • internet • chat rooms • forums • newsgroups
<i>Back-up</i> may involve:	<ul style="list-style-type: none"> • simple, single tape unit back-up to more comprehensive and complex back-up facilities across the network

Unit Sector(s)

Unit sector	Support
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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