



Australian Government

Department of Education, Employment and Workplace Relations

ICA50405 Diploma of Information Technology (Networking)

Release: 1

ICA50405 Diploma of Information Technology (Networking)

Modification History

Not Applicable

Description

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This qualification provides the skills and knowledge for an individual to be competent in high level network management and engineering. The qualification has a strong ICT networking base with the potential for inclusion of a range of broader ICT internetworking, security or e-business units to suit particular needs.

One pathway into this qualification could be through the ICA05 Certificate IV in IT (Networking) and graduates of the Diploma could progress into the ICA05 network security qualification at Advanced Diploma level.

There are a number of relevant and complementary IT 'vendor' certifications that relate to this Diploma qualification. For example, ICAS5192B Configure an internet gateway and ICAA5144B Determine best fit topology for a local network are appropriate competencies to integrate with Cisco Semester 3. ICAA5145B Determine best fit topology for a local network and ICAA5045C Produce network architecture design are appropriate competencies to integrate with Cisco Semester 4.

Selection from a stream of specialist units is part of the packaging rules for this qualification. By judicious selection of units, individuals can build an 'internetworking' specialty within the qualification. The composition of this potential specialty reflects the integrative nature of the role with emphasis on gateways, bridges/switches and installation/configuration of routers and networks. This would be unlikely to suit an entry level position unless the individual had other networking or installation/configuration experience. To be successful, integrators and internetworking specialists cannot operate in a vacuum, they need to be familiar with the offerings of technology providers that have the product set on which to build the solutions and be experienced and accountable as their work is often pivotal to a wider project or business strategy.

The provision for selecting non-internetworking some electives either from elsewhere in ICA05 or from another package provides the flexibility for other skill areas (e.g. business development or e-business strategy) to also be included in the qualification.

Job Roles

Possible job titles include:

- Configuration Specialist
- Enterprise Application Integration Consultant
- E-Security Analyst/Manager
- Integration Analyst
- Integration Centre Specialist
- Intranet Engineer
- Middleware Integration Specialist
- Network Engineer
- Senior Java Developer (major systems integration)
- Solutions Architect
- Systems Engineer

Prerequisite Requirements

A number of units within this qualification have prerequisites. These are detailed as follows:

Code and Title

Prerequisite units required

Code and Title	Prerequisite units required
ICAA5045C Produce network architecture design	ICAD4217B Create technical documentation
ICAA5158B Translate business needs into technical requirements	ICAA4233B Determine and apply appropriate development methodologies
ICAA5245A Evaluate RFID systems	ICAA4041C Determine and confirm client business expectations and needs ICAD4217B Create technical documentation
ICAA5246A Design an RFID implementation	ICAA4041C Determine and confirm client business expectations and needs ICAD4217B Create technical documentation
ICAI5098C Install and manage complex networks	ICAI4097C Install and configure a network #
ICAI5100C Build an internet infrastructure	ICAB5160C Build and configure a server #
ICAI5250A Develop, implement and evaluate system and application security	ICAB4225B Automate processes
ICAI5252A Develop, implement and evaluate an incident response plan	ICAP4037B Contribute to the development of a strategy plan # ICAI5152B Implement risk management processes
ICAI5253A Implement and evaluate systems for regulatory and standards compliance	ICAA4041C Determine and confirm client business expectations and needs

This unit has prerequisite requirements. Section 1.6 provides further details.

Pathways Information

Not Applicable

Licensing/Regulatory Information

Not Applicable

Entry Requirements

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The following units contain the basic fundamentals of ICT knowledge and skills for all qualifications at Certificate III in IT and above. These units or demonstrated equivalence are required for entry into this qualification:

BSBCMN106A	Follow workplace safety procedures
ICAD2012B	Design organisational documents using computing packages
ICAU1128B	Operate a personal computer
ICAU2005B	Operate computer hardware
ICAU2006B	Operate computing packages
ICAU2013B	Integrate commercial computing packages
ICAU2231B	Use computer operating system
ICAW2001B	Work effectively in an IT environment
ICAW2002B	Communicate in the workplace

Employability Skills Summary

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The following table contains a summary of the Employability Skills required for a Network/Systems Engineer. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry requirements for this qualification include:
Communication	<ul style="list-style-type: none"> communicating clear concepts and solutions to complex issues in an unambiguous manner to colleagues and clients using plain English literacy and communication skills in relation to analysis, evaluation and presentation of information, for example when developing policies and procedures using report writing skills for business, requiring depth in some areas, and analysis and evaluation of information, for example when developing supporting documentation regarding maintenance issues
Teamwork	<ul style="list-style-type: none"> coordinating groups and teams liaising with relevant personnel to obtain approval for plans participating in teams concerned with planning and evaluation functions
Problem Solving	<ul style="list-style-type: none"> measuring parameters then modifying, correcting and debugging the network rapidly deploying solutions to problems involving failure using problem-solving skills for complex networks, including systems processes

Employability Skill	Industry requirements for this qualification include:
Initiative and Enterprise	<ul style="list-style-type: none"> providing alternative solutions with reference to required server application and server features transferring and applying theoretical concepts and/or technical or creative skills to a range of situations
Planning and Organising	<ul style="list-style-type: none"> developing plans, with prioritised tasks and contingency arrangements, for the implementation of the network design with minimum disruption to client using project planning skills in relation to scope, time, cost, quality, communications and risk management, for example when reviewing user requirements
Self-management	<ul style="list-style-type: none"> taking personal responsibility and autonomy in performing complex technical operations or organising others
Learning	<ul style="list-style-type: none"> determining the support and training requirements needed for network support gathering and analysing user feedback about using the changed system preparing and delivering relevant training in a manner appropriate to the audience
Technology	<ul style="list-style-type: none"> identifying technology needs, sourcing, purchasing, installing, configuring and testing network components including software and hardware using tools such as generic benchmarks, software sizing models, workload testing and performance monitoring

Packaging Rules

Qualification Structure

ICA50405 Diploma of Information Technology (Networking) comprises 18 units:

- 8 core units; plus
- 6 units from the specialist electives list; plus

4 elective units

Achieve 8 Core Units

Core

BSBPMG505A	Manage project quality
ICAA5056B	Prepare disaster recovery and contingency plans
ICAA5045C	Produce network architecture design
ICAA5158B	Translate business needs into technical requirements
ICAI5098C	Install and manage complex networks
ICAI5100C	Build an internet infrastructure
ICAS5202B	Ensure privacy for users

PSPPM502B Manage complex projects

Achieve 6 Elective Units from the Specialist Electives list below

Specialist Electives

ICAA5044C	Develop system infrastructure design plan
ICAA5144B	Determine best-fit topology for a local network
ICAA5145B	Identify best-fit topology for a wide area network
ICAA5151B	Gather data to identify business requirements
ICAA5245A	Evaluate RFID systems
ICAA5246A	Design an RFID implementation
ICAB5159C	Build a security shield for a network
ICAB5160C	Build and configure a server
ICAB5237B	Build a highly secure firewall
ICAB5238B	Build a high performance security perimeter
ICAI5173B	Install and configure a single-segment local area network switch
ICAI5174B	Install high-end switches in multi-switched local area networks
ICAI5176C	Install and configure router
ICAI5196B	Implement secure encryption technologies
ICAI5197B	Install and maintain valid authentication processes
ICAI5250A	Develop, implement and evaluate system and application security
ICAI5252A	Develop, implement and evaluate an incident response plan
ICAI5253A	Implement and evaluate systems for regulatory and standards compliance
ICAP5039B	Match IT needs with the strategic direction of the enterprise
ICAS5102B	Establish and maintain client user liaison
ICAS5123C	Manage network security
ICAS5192B	Configure an internet gateway
ICTTC168A	Design and implement an enterprise VoIP&unified communications network

Achieve 4 Elective Units Chosen from the Following Sources (Listed in Recommended Order)

- units not previously selected from the Specialist Electives list (above); and/or
- *ICA05 Information and Communications Technology Training Package* at Diploma or Advanced Diploma (up to 2 units can be selected at Certificate IV); and/or
- preferred Training Packages at Diploma or Advanced Diploma (ICT02 Telecommunications; BSB07 Business Services; CUF07 Screen and Media; ICP05 Printing and Graphic Arts); and/or
- any other Training Package (to maximum of 2 units) at Diploma or Advanced Diploma based on documented industry or enterprise needs
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