Overview

This sub-discipline is part of overall service design. It concerns the design of, and planning for, resilient IT/ technology infrastructure and environments.

This sub-discipline is about the competencies required to design and plan for the implementation of, the hardware, network and software infrastructure supporting the IT/technology application services, systems, services and assets used to support an organisation. IT/ hardware technology hardware, software and network infrastructure may exist both within a single organisation and also be shared/span across multiple organisations. Infrastructure hardware, software and networks are usually implemented as a result of business demands which indirectly require changes to the infrastructure. IT/technology infrastructure design and planning may also be a proactive activity in terms of trying to improve the availability of systems, services and assets to support service objectives.

Hardware infrastructure may include:

- Processors
- Storage devices
- Mobile devices
- Input and output devices
- Any other items of hardware required for the provision of IT/technology systems, services and systems assets for an organisation

Software infrastructure may include:

- Systems management software such as operating system software
- Database management software
- Software tools
- Storage management software
- Middleware for connecting applications and other components
- Web services

Network infrastructure includes network specific network and hardware comprises and all of the components necessary for any type of network, whether hard wired or wireless, which support the provision of IT services, systems and assets for an organisation.

This sub-discipline requires not only technical understanding of individual hardware, software or network products and services (or any combination of these) but also the architectural principles, standards and protocols that must be applied within the design of the infrastructure.
I
ndividuals working within this area may have competencies relating solely to hardware, software or networks or a combination of these elements of the IT/technology infrastructure.

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IT/Technology Infrastructure Design and Planning Level 2 Role

Performance criteria	**Follow, under supervision, organisational strategy for IT/technology infrastructure design and planning activities**
You must be able to:	

P1 Correctly follow the processes, tools and techniques to use for IT/technology infrastructure design and planning activities

P2 Fully comply with all organisational strategy, policies and standards relating to infrastructure design and planning activities and their deliverables

P3 Correctly reference all relevant design and configuration principles and standards that apply to IT/technology infrastructure supporting an organisation

P4 Correctly gather and collate all relevant information contained within the service catalogue, any service level agreements, service improvement and service quality plans that are required for IT/technology infrastructure design and planning activities

P5 Accurately source all relevant information concerning problems or errors with any existing infrastructure product/service and/or items of equipment so that it may inform IT/technology infrastructure design and planning activities, under direction

P6 Accurately source all relevant information required to assess the suitability of IT/technology infrastructure components for any particular design assignment, under direction

Carry out, under supervision, customer requirements for IT/technology infrastructure design and planning

You must be able to:

P7 Critically interpret and accurately document customer demands for new and/or enhanced services from IT/technology infrastructure and the requirements for the design and planning of an individual IT/technology infrastructure component

P8 Correctly identify who are the external providers of IT/technology infrastructure used by the organisation and which components can be sourced from them

P9 Critically analyse all relevant information regarding the external providers of IT/technology infrastructure used by the organisation and the components that can be sourced from them

P10 Correctly document all relevant naming conventions and standards used in infrastructure design and planning activities

P11 Develop and accurately document effective and appropriate designs and plans for individual IT/technology infrastructure components

P12 Assist others in identifying any potential implications of customer and service demands for new and/or enhanced services on IT/technology infrastructure design and planning activities

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IT/Technology Infrastructure Design and Planning Level 2 Role

Knowledge and understanding	**Follow, under supervision, organisational strategy for IT/technology infrastructure design and planning activities**

You need to know and understand:

K1   Comply with

K1.1   any relevant legislation, regulations and external standards relating to infrastructure design and planning activities

K1.2   any relevant internal policies, approaches and standards relevant to infrastructure design and planning activities and their deliverables

K2   Use and apply the processes, tools and techniques for IT/technology infrastructure design and planning activities and their deliverables

K3   Source, gather and collate information

K3.1   contained within any service improvement and service quality plans that is required for IT/technology infrastructure design and planning

K3.2   from service level agreements required for IT/technology infrastructure design and planning activities

K3.3   required to assess the suitability of infrastructure components

K3.4   relating to incidents, problems, changes, events and service availability in order to inform and guide IT/technology infrastructure design and planning activities

K3.5   required from the service catalogue and the targets and levels contained within it, during any IT/technology infrastructure design and planning activities

K3.6   concerning problems or errors with any existing infrastructure product/service and/or items of equipment during IT/technology infrastructure design and planning activities

K3.7   regarding any changes, repairs and replacements made to infrastructure products/services and/or equipment in the current configuration

K3.8   about future infrastructure product/service and/or equipment releases and/or refreshes

K3.9   customer demands for new and/or enhanced services from IT/technology infrastructure

K3.10   required to design and plan an individual IT/technology infrastructure component

K4   Operate with reference to

K4.1   IT/technology design and configuration principles and standards that apply to infrastructure supporting an organisation

K4.2   confidentiality, integrity and security during IT/technology infrastructure design and planning activities

K4.3   professional and ethical standards relating to infrastructure design and planning activities and their deliverables

K4.4   organisational strategy, policies and standards in infrastructure design and planning activities

K5	What is meant by IT/Technology infrastructure design and planning	
K6	What are the	
K6.1	types of activities undertaken during IT/technology infrastructure design and planning	
K6.2	processes, tools and techniques to conduct IT/technology infrastructure design and planning	
K6.3	inputs to and required outputs from IT/technology infrastructure design and planning activities	
K7	The processes, tools and techniques that can be used to conduct IT/technology infrastructure design and planning activities in a range of business and organisational contexts	
K8	The fact that	
K8.1	major organisation changes, such as mergers and acquisitions can have a significant impact on IT/technology infrastructure and often results in the need for it to be redesigned	
K8.2	external providers of IT/technology infrastructure design and planning services exist	
K8.3	some external providers host infrastructure services or provide outsourcing capabilities whilst others purely supply and/or support products/services and/or equipment and that IT/Technology infrastructure design and planning may incorporate use of external providers	
K8.4	some organisations choose to design IT/Technology infrastructure that makes use of external/shared infrastructure products/services, and/or equipment either wholly or partially	
K8.5	IT/technology infrastructure design and planning may occur as a result of problems occurring with existing infrastructure products/services and/or equipment, changes to the business requirements, or the availability of new or enhanced IT/technology infrastructure products, services and/or assets	
K8.6	IT/technology infrastructure design and planning activities need to be aligned with other design activities associated with the production of any IT/technology system, service and/or assets	
K8.7	organisations rely on infrastructure products/services and/or equipment being available and accessible for their business operations	
K8.8	incidents, problems and issues associated with infrastructure may result in the need for IT/technology infrastructure design and planning activities	
K8.9	customers of infrastructure products/services and/or equipment may be internal or external to the organisation	

Carry out, under supervision, customer requirements for IT/technology infrastructure design and planning

You need to know and

understand:	K9	Identify
	K9.1	who are the external providers of infrastructure products, services and equipment used by the organisation
	K9.2	which infrastructure products, services and equipment can be sourced from which external providers
	K9.3	the requirements for the design and planning of an individual IT/technology infrastructure component
	K9.4	customer demands for new and/or enhanced services from IT/technology infrastructure
	K10	Analyse and interpret
	K10.1	information regarding the external providers of infrastructure products/services and/or equipment used by the organisation
	K10.2	information regarding infrastructure products/services and/or equipment that can be sourced from different external providers
	K10.3	the requirements for the design and planning of an individual IT/technology infrastructure component
	K10.4	customer demands for new and/or enhanced services from IT/technology infrastructure
	K11	Document
	K11.1	naming conventions and standards used in infrastructure design and planning activities
	K11.2	the design and plans for individual IT/technology infrastructure components
	K11.3	customer demands for new and/or enhanced services from IT/technology infrastructure
	K12	Develop designs and plans for individual IT/technology infrastructure components
	K13	Who
	K13.1	are external providers of infrastructure products, services and equipment
	K13.2	needs to be contacted internally and externally to provide information regarding individual IT/technology products, services and items of equipment for IT/technology infrastructure design and planning activities
	K14	The importance of
	K14.1	understanding the needs of the users of IT/technology systems, services and assets, including any particular needs, when undertaking IT/technology infrastructure design and planning activities
	K14.2	referencing operational information relating to incidents, problems, changes, events and service availability in order to inform and guide IT/technology infrastructure design and planning activities
	K14.3	documenting effective and clear designs and plans for IT/technology infrastructure products, services and equipment
	K14.4	referencing standards for infrastructure products, services and

equipment during IT/technology infrastructure design and planning activities

K14.5 referencing any documented problems or errors with any existing infrastructure products, services and equipment during IT/technology infrastructure design and planning activities

K14.6 IT/technology infrastructure designs and plans enabling other design work to be fulfilled

K14.7 matching requirements to components in an IT/technology infrastructure design

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IT/Technology Infrastructure Design and Planning Level 2 Role

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