ESKITP4086
IT/Technology Infrastructure Design and Planning Level 6 Role

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
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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.
Individuals 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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Performance criteria

Develop the strategy and policies for IT/technology infrastructure design and planning activities

You must be able to:

P1 Design effective strategy and policies relating to all aspects of IT/technology infrastructure design and planning activities

P2 Design specific and meaningful metrics to assess the performance of IT/technology infrastructure design and planning activities

P3 Correctly identify, anticipate and respond effectively to business strategy, changes to the operating model and other strategic issues that may impact on the IT/technology infrastructure supporting an organisation

P4 Correctly identify the implications of the service strategy and service delivery, operation objectives on IT/technology infrastructure design and planning activities

P5 Correctly identify any implications for an organisation's operational effectiveness, brand and reputation that may result from IT/technology infrastructure design and planning activities

Direct the management of IT/technology infrastructure design and planning

You must be able to:

P6 Take proactive action in IT/technology infrastructure design and planning in order to try to improve the availability of systems, services and assets to support service objectives

P7 Verify any proposed designs and plans developed by others for any changes to existing IT/technology infrastructure

P8 Make clear and timely decisions to improve the quality and effectiveness of IT/technology infrastructure design and planning activities and their deliverables within an organisation

P9 Correctly identify what actions may be taken in the event of IT/technology infrastructure design and planning activities not supporting the business needs, service delivery/operation objectives and/or the service strategy

P10 Make well reasoned decisions on when and how to use external providers of IT/technology infrastructure design and planning services, selecting the preferred organisations and negotiating/contracting with them accordingly on behalf of the organisation

Take effective control of IT/technology infrastructure design and planning activities and their deliverables

You must be able to:

P11 Routinely monitor the alignment of IT/technology infrastructure design and planning activities and their deliverables with business needs, service operation objectives and the service strategy, taking action where appropriate

P12 Regularly monitor the quality and effectiveness of external providers of IT/technology infrastructure design and planning services, identifying and

recommending action where appropriate

P13 Clearly and precisely report the results from monitoring the alignment of IT/technology infrastructure design and planning activities and their deliverables with business needs, service operation objectives and service strategy

Knowledge and understanding

You need to know and understand:

Develop the strategy and policies for IT/technology infrastructure design and planning activities

K1 Design

K1.1 metrics to measure the performance of IT/technology infrastructure design and planning activities

K1.2 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

K1.3 the processes, tools and techniques that can be used to monitor the alignment of IT/technology infrastructure designs and plans with business needs, service operation objectives and service strategy

K1.4 the processes, tools and techniques that can be used to monitor the quality and effectiveness of IT/technology infrastructure design and planning activities and their deliverables

K1.5 the processes, tools and techniques that can be used to monitor the alignment of IT/technology infrastructure design and planning activities and their deliverables with any relevant legislation, regulations and external standards

K1.6 the processes, tools and techniques that can be used to monitor the quality and effectiveness of external providers of IT/technology infrastructure design and planning services

K1.7 the processes, tools and techniques to monitor the alignment of IT/technology infrastructure design and planning activities and their deliverables with business needs, service delivery/operation objectives and the service strategy

K1.8 strategy and policies to conduct IT/technology infrastructure design and planning activities

K1.9 strategy and policies to ensure the alignment of IT/technology

	infrastructure design and planning activities and their deliverables with all relevant legislation, regulations and external standards
K2	Identify
K2.1	the implications of the service strategy and service delivery/operation objectives on IT/technology infrastructure design and planning activities
K2.2	the range of approaches that may be taken to IT/technology infrastructure design and planning and their appropriateness in a range of business and organisational contexts
K2.3	what metrics are to be used to measure the performance of IT/technology infrastructure design and planning activities
K2.4	what actions may be taken in the event of IT/technology infrastructure design and planning not supporting the business needs, service delivery/operation objectives and/or the service strategy
K2.5	when and how to use external providers for IT/technology infrastructure design and planning activities
K2.6	any issues involved in the outsourcing of IT/technology infrastructure design and planning
K2.7	appropriate internal and/or external technical expertise to use during IT/technology infrastructure design and planning activities
K2.8	implications for an organisation's operational effectiveness, brand and reputation that may result from IT/technology infrastructure design and planning activities
K2.9	the implications of business strategy, changes to the operating model and other strategic issues on the IT/technology infrastructure supporting an organisation
K3	Authorise, agree and contract
K3.1	actions
K3.2	approaches
K3.3	strategy, policies, plans, procedures, standards, methods, tools and techniques
K3.4	contractual arrangements with external providers of IT/technology infrastructure design and planning activities services
K3.5	decisions
K4	What is the range of approaches that may be used to conduct IT/technology Infrastructure design and planning activities and their appropriateness in a range of business and organisational contexts

Direct the management of IT/technology infrastructure design and planning

You need to know and understand:

K5	Verify
K5.1	the proposed designs and plans for any changes to existing IT/technology infrastructure

K6	Make decisions
K6.1	on the total effort, elapsed time, risk, complexity and cost that may be required to develop, test and implement new designs for infrastructure products, services and
K6.2	equipment
K6.3	on the actions to be taken in the event of IT/technology infrastructure design and planning activities being incomplete, inaccurate, inadequate or inappropriate
K6.4	to improve the quality and effectiveness of IT/technology infrastructure design and planning activities and their deliverables within an organisation
K6.5	on when and how to use external providers of IT/technology infrastructure design and planning services
K6.6	on which external providers of IT/technology infrastructure design and planning services to use
K6.7	on the results provided by monitoring IT/technology infrastructure design and planning activities and their deliverables
K6.8	on the actions that may be taken in the event of IT/technology infrastructure design and planning activities and their deliverables not meeting the business needs
K6.9	on the actions that may be taken in the event of IT/technology infrastructure design and planning activities and their deliverables not aligning with other design and planning activities
K6.10	on the actions that may be taken in the event of external providers of IT/technology infrastructure design and planning services failing to provide an efficient or quality service
K7	Apply the metrics to measure the performance of IT/technology infrastructure design and planning activities
K8	Interpret the benefits and business case for any changes to replacements or refreshes of IT/technology infrastructure that are required
K9	advise and guide others on best practice in IT/technology infrastructure design and planning activities
K10	Negotiate with external providers of IT/technology infrastructure design and planning services

Take effective control of IT/technology infrastructure design and planning activities and their deliverables

You need to know and understand:

K11	Monitor
K11.1	the quality and effectiveness of external providers of IT/technology infrastructure design and planning services
K11.2	the alignment of IT/technology infrastructure design and planning activities and their deliverables with business needs, service operation objectives and the service strategy
K12	Report
K12.1	findings from monitoring the quality and effectiveness of external providers of IT/technology infrastructure design and planning services
K12.2	the results from monitoring the alignment of IT/technology infrastructure design and planning activities and their deliverables with business needs, service operation objectives and service strategy
K13	Present the overall cost and complexity of designs for new IT/technology infrastructure to support systems/solutions/services
K14	Take measures
K14.1	to be proactive in IT/technology infrastructure design and planning in order to try to improve the availability of systems, services and assets to support service objectives
K14.2	to anticipate and respond to business strategy, changes to the operating model and other strategic issues that may impact on the IT/Technology infrastructure supporting an organisation

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