
Overview

This sub-discipline Network Design (902) is concerned with the competencies required for network design in order to ensure that the business has a fit for purpose network infrastructure system. This includes overall network system design and the selection of hardware and software components that will meet the organisations requirements for the intended dimension of network traffic. A typical network will include any type of transmission medium and interface to a wide variety of wired and wireless devices which will support the delivery of products and services.

This sub discipline requires not only technical knowledge of individual hardware and software 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 network infrastructure. It is envisaged that those involved in network design should have a broad knowledge of all aspects of networking in order to produce the network designs, policies and documentation covering all transmission mediums in order to support the business requirements and strategy. This may include all aspects of communications infrastructure, internal and external, mobile, public and private, intranet and internet.

Working in the senior professional network design role (9025) is primarily focussed on creation and management of network design services, including procedures for access, security, audit controls, recovery routines and contingency procedures for networking.

Performance criteria

You must be able to:

1. manage a network design team to deliver network designs to meet specifications
2. deliver network design solutions to provide high quality network architectures
3. apply tools and techniques to elicit appropriate organisational requirements for network architecture and design
4. document processes and procedures to ensure that the security of data, knowledge and information that may transmit across the network infrastructure meets organisational standards
5. communicate the results of network design projects to internal and external customers in line with organisational procedures
6. conduct skills and training needs analysis to meet organisational requirements
7. identify appropriate internal and external training solutions to improve the skills of the network design team
8. maintain a repository of approved network hardware and software products in line with standard organisational procedures
9. advise and guide others on the best practices to design effective network infrastructure services
10. design network access rights for network users and administrators in line with organisational procedures
11. horizon scan to explore new networking technologies and methods to continually improve the network design capability

Knowledge and understanding

You need to know and understand:

1. how to manage a network design team
2. what is meant by network security management and how this is applied
3. the potential implications of network security failure for the organisation
4. the importance of operating with reference to confidentiality, integrity and professional ethical standards relating to network security management activities
5. the potential implications of network security failures on external bodies and individuals
6. the standards and regulations relating to network security within the organisation
7. those aspects of an organisations security strategy and functions that rely upon network services, assets and information contained within
8. how to undertake network analysis and design for complex problem domains
9. how to document a network design
10. the range of techniques used for network design and how to apply them
11. how to conduct a skills and training needs analysis for network designers
12. how to maintain a repository of software and computer applications
13. how to scan for emerging network technologies
14. how to develop appropriate network access schemes

Manage Network Infrastructure Services Design

Developed by	e-skills
Version Number	1
Date Approved	December 2014
Indicative Review Date	April 2017
Validity	Current
Status	Original
Originating Organisation	e-skills UK
Original URN	ESKITP902501
Relevant Occupations	Information and Communication Technology; Information and Communication Technology Officer; Information and Communication Technology Professionals
Suite	IT and Telecoms
Keywords	Network Design, Network Infrastructure
