Australian Government

ICTTEN622 Produce ICT network architecture designs

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to compile and evaluate business specifications from a client and produce a set of architecture design solutions to cater for present and future forecast demands.

It applies to individuals working in the field who carry out design and implementation of technical solutions of information communications technology (ICT) networks, employed by information technology networking provisioning companies specialising in integrating converging and emerging technologies of ICT networks.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare to produce ICT network architecture design	1.1 Obtain work details, specifications and scope from relevant personnel and arrange for site access in compliance with required security arrangements, legislation, codes, regulations and standards 1.2 Consult with key stakeholders to identify their requirements of the scoped network architecture design 1.3 Assess business problems, opportunities and objectives, and confirm details with relevant personnel
2. Produce preliminary ICT network	2.1 Determine hardware, software and network requirements according to manufacturer specifications

ELEMENT	PERFORMANCE CRITERIA
architecture design	2.2 Select required software solutions 2.3 Develop preliminary physical network diagrams as a preface to architecture blueprint 2.4 Produce a document on the possible impact of the network design on the business requirements
3. Evaluate preliminary design and anticipated performance	3.1 Predict forecast traffic demands, and impact on network design, from current and future demand requirements 3.2 Benchmark design using expected performance parameters 3.3 Review likely performance profile of the design 3.4 Determine costs involved with a range of supplier products 3.5 Produce an evaluation report on predicted performance and costs of the network architecture design, addressing business specifications and recommendations
4. Finalise network architecture design and obtain approval	4.1 Review benchmarks, requirements and final design proposed 4.2 Determine support and training requirements needed 4.3 Obtain latest technical specifications and pricing by contacting possible vendors 4.4 Document network design and present documentation to required person for approval 4.5 Obtain sign off on final business solution

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	• Interprets numerical information according to business requirements and specifications to evaluate possible technical design scenarios within budgetary constraints
Oral communication	• Participates in verbal exchanges using clear language and active listening, observational and questioning techniques to confirm, clarify or revise understanding
Reading	• Organises, evaluates and interprets technical documentation and required enterprise policy and documentation
Writing	• Prepares workplace documentation, including diagrammatic material, incorporating technical language to communicate complex information clearly and effectively

SKILL	DESCRIPTION
Planning and organising	• Uses a combination of formal, logical planning processes to identify required information, test strategies and resources • Demonstrates a sophisticated understanding of principles, concepts, language and practices associated with the digital world and uses this to propose solutions • Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering required information, and identifying and evaluating options against agreed criteria • Uses formal, analytical and lateral thinking techniques for diagnosing problems and generating and evaluating possible solutions
Technology	• Selects and uses required conventions and protocols when communicating with stakeholders in a range of work contexts

Unit Mapping Information

Supersedes and is equivalent to ICTTEN611 Produce an ICT network architecture design.

Links

Companion Volume Implementation Guide is found on VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2