



Australian Government

ICTTEN810 Investigate the application of cloud networks in telecommunications switching

Release: 1

ICTTEN810 Investigate the application of cloud networks in telecommunications switching

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to develop strategies to accommodate shortfalls in capacity and functionality for a switching network. It also covers how to develop solutions for network growth using emerging technologies, including cloud computing.

It applies to individuals with excellent technical and strategic management skills working as telecommunications planning engineers and senior technical staff.

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

Unit Sector

Telecommunications – Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Evaluate current physical network infrastructure	1.1 Analyse scalability, functionality, cost, security and energy consumption of existing physical network infrastructure 1.2 Report on shortfalls and risks of existing physical infrastructure in accommodating network growth and increased functionality 1.3 Investigate capacity and functionality shortfalls of existing physical infrastructure to highlight limitations of the existing switching network 1.4 Document estimated costs and issues associated with meeting capacity and functionality shortfalls using existing physical

ELEMENT	PERFORMANCE CRITERIA
	infrastructure
2. Investigate the application of cloud networks	2.1 Analyse trends in cloud networks (infrastructure-as-a-service), technologies and multiprotocol label switching (MPLS) architectures against rapid changes in the landscape 2.2 Determine applicability of cloud networks (infrastructure-as-a-service) to meet capacity and functionality requirements of the network 2.3 Assess risks in using cloud networks to meet capacity and functionality requirements of the network 2.4 Evaluate a range of cloud network solutions and justify selection of an optimum network switching solution 2.5 Develop solution elements using a series of small project elements 2.6 Produce a cloud network alternative solution to emulate the existing core network of a service provider
3. Analyse the impact of the cloud network solution for system integration and across business domains	3.1 Prepare a plan for organisational change control processes and integration of cloud network solutions within a complete network infrastructure 3.2 Prepare a test scenario and produce a test management schedule for the testing process of system elements and interfaces using simulation 3.3 Use integration document software to replicate issues exhibited in test environment 3.4 Certify cloud network solution compatibility and compliance to requirements using the web-based test management tool (quality centre) to conduct performance evaluation tests 3.5 Analyse test reports to evaluate load balancing and network security issues in test environment 3.6 Document and resolve conflicts detected in simulation testing
4. Develop a business case for implementation of a cloud network	4.1 Prepare a cost-benefit analysis of the cloud network solution as a business case to evaluate the return on investment (RoI) 4.2 Investigate staging of the solution and timing implementation of project elements as a scenario for real life implementation 4.3 Research and report on key features of cloud network implementation in a business case study

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 2.1, 3.5, 4.3	Researches, evaluates and interprets complex technical documentation, such as software and hardware manuals and design specifications
Writing	1.2, 1.4, 3.1, 3.2, 3.6, 4.1, 4.3	Prepares clear and concise workplace documentation, including reports and recommendations incorporating technical language, to communicate complex information
Numeracy	1.1, 1.3, 1.4, 3.5, 4.1	Uses numerical information to interpret results, evaluate different types of technical data, take measurements and determine cost-effective outcomes for RoI
Get the work done	1.1, 1.3, 1.4, 2.1-2.5, 3.1-3.4, 3.6, 4.2	- Uses a combination of formal, logical planning processes and an increasingly intuitive understanding of context for complex, high-impact activities with strategic implications - Implements actions according to a predetermined plan, making adjustments if necessary - Takes responsibility for high-impact decisions in complex situations involving many variables and constraints - Uses formal, analytical and lateral thinking techniques to resolve problems or to generate ideas - Actively identifies digital systems, devices and applications with potential to meet current and/or future needs - Uses main features and functions of digital tools to complete work tasks

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN810 Investigate the application of cloud networks in telecommunication	ICTTEN8194A Investigate the application of cloud networks in telecommunications	Updated to meet Standards for Training Packages.	Equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
s switching	switching		

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>