

**Functional Area: Network Infrastructure & Operation (Operation / Support & Maintenance)**

1. Title	Perform bandwidth adjustments for optimum network traffics	
2. Code	ITCSNO420A	
3. Range	Network infrastructure optimisation is an art of adjusting network bandwidth to achieve an acceptable network capacity. The optimisation process will consider possible latencies caused by various network components leading to inefficient use of network bandwidth which causes low throughput. By adjusting or reconfiguring various components or parameters of the network components, an increase of bandwidth should be gained. Components include switches, routers, fibre optic equipment, microwave radios transmitters, modems, softswitches, multiplexors, etc.	
4. Level	4	
5. Credit	3	
6. Competency	<p style="text-align: center;"><u>Performance Requirement</u></p> <p>6.1 Possess the knowledge in the subject area</p> <ul style="list-style-type: none"> <li>• Comprehend network diagrams and access network plans</li> <li>• Possess extensive experience with the operating characteristics of the network components and be able to configure or adjust various settings with assistance of technical manuals, if necessary</li> <li>• Possess extensive knowledge of various network technologies (NGN, VOIP, TDM, WiMAX, LTE, SS7, HSDPA, IPTV, FTTx, etc.), network components (MPLS, routers, switches, ADSL devices, modems, cables, antennas, etc.), network protocols (TCP/IP, ATM, IEEE 802.x, Ethernet, Frame Relay, etc.), application level services (QoS, encryption, compression, etc.)</li> <li>• Possess extensive experience with network monitoring tools, analysis of statistics or performance reports</li> <li>• Knowledgeable of health and safety rules and hazards related to the equipment and/or tools while performing the optimisation process</li> <li>• Critically understand customers' expectation and company's business goals</li> </ul> <p>6.2 Perform bandwidth adjustments for optimum network traffics</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>• Conduct network performance evaluation by collecting statistics or reports from network monitoring equipment</li> <li>• Analyse the statistics and reports, together with various other factors (e.g. vendor stated performance, user's comments) and formulate an impression of the network overall performance</li> <li>• Identify where network latency is occurring and formulate what optimisation action is required</li> <li>• Co-ordinate with various parties informing when, what optimisation will be performed and what coordination is required, if any</li> <li>• Perform the adjustments and configurations of components to reduce latency</li> <li>• Document the optimisation process in accordance with the organisation's standards and policies</li> </ul> <p>6.3 Exhibit professionalism</p> <ul style="list-style-type: none"> <li>• Follow the health and safety guidelines when adjusting network equipment</li> <li>• Always take into consideration and strike a proper balance among all related technological, environmental and legal factors</li> </ul>	
7. Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to:	
	i. use reports/statistics/tools for network performance analysis	
	ii. identify network inefficiencies and formulate correctional plans	
	iii. coordinate with stakeholders for the network bandwidth adjustment job	
Remark		