

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

1. Title	Perform congestion control
2. Code	ITCSNO422A
3. Range	Network efficiency involves moving traffics effectively with high throughput. Bottlenecks will affect efficiency and user experience. This UoC concerns network congestion control. Congestion control requires predictive process to avoid loss of data or excessive call drops. Most of the congestion control is performed at the switches of core network which may be wireline or mobile network.
4. Level	4
5. Credit	4
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"> • Possess extensive experience with network capacity management and operating threshold of the network • Knowledgeable of various operating network technologies such as ATM, IP, etc • Possess extensive knowledge of routing and switching concepts • Possess extensive experience with network traffic management software applications and troubleshooting of alarms and warnings • Critically knowledgeable of the organisation policies and procedures on congestion control • Capable of analysing the traffic conditions and make appropriate decisions and adjustments • Understand health and safety rules and hazards related to the handling equipment and tools while performing the load balancing process <p>6.2 Perform congestion control</p> <p>Be able to:</p> <ul style="list-style-type: none"> • Determine the current and possible optimal operating threshold of the network from documented reports, manuals, logs and statistics • Define suitable monitoring points • Set appropriate monitors and alarm trigger points to activate when certain network activity falls below or above a threshold or use network management application to determine unusual network traffic behaviours • Analyse the alarm/warning when triggers are activated. Identify points and causes of congestion or abnormality • Formulate appropriate actions in accordance with guidelines of the organisation's policy such as performing Connection Admission Control (CAC), adjusting routing path, increasing buffer size, etc. • Escalate or seek for assistance when unable to resolve or contain congestion • Perform adjustments at the routing or switching devices to divert, increase bandwidth to relieve network traffic congestion • Document the congestion control actions in accordance with the organisation's standards and policies • Participate with reviews or debriefings, when and if required <p>6.3 Exhibit professionalism</p> <ul style="list-style-type: none"> • Familiarise with the required actions of congestion control policies and regular drills • Follow safety procedures when performing adjustments on network equipment
7. Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to: <ol style="list-style-type: none"> i. use reports/statistics/tools for network traffic analysis ii. use problem analysis skills to determine where congestion may occur iii. formulate action plans to resolve network traffic congestion by considering various situations or aspects iv. perform suitable adjustments to relieve network congestion successfully
Remark	