Specification of Competency Standards
for the Information & Communications Technology Industry
Unit of Competency

Functional Area - Network Infrastructure and Operation

Title	Implementing monitoring equipment to monitor infrastructure failure and security breaches
Code	111429L4
Range	For a network to operate reliably and efficiently, continuous monitoring is required to detect faults and security breaches so that appropriate actions can be taken. This UoC describes the competencies for implementing monitoring equipment to monitor infrastructure failure and security breaches.
Level	4
Credit	6 （For Reference Only）

Competency	Performance Requirements
	1. Possess the knowledge in the subject area
	
	• Expert in implementing various types of network monitoring management tools, Internet of things (IoT) device management software, alarm management tools, log management, system messages, software systems
	• Knowledgeable of the operational requirements, duties, functions, and procedures of network related systems of the organisation
	• Extensively experienced with network monitoring and implementation of monitoring equipment
	• Possess in depth knowledge of network infrastructure, diagrams, maps and access network plans
	• Possess extensive knowledge of the operating characteristics of the network components
	• Understand the organisation's security policy
	
	2. Implementing monitoring equipment to monitor infrastructure failure and security breaches
	
	• Be able to:
	    o Determine from work orders or supervisors the type of monitoring and objective of performing monitoring thresholds e.g. to meet SLA commitment to customers, to collect statistic for capacity planning, for support purpose, etc
	    o Identify the appropriate monitoring equipment to use and consider alternatives
	    o Determine and define operating baselines for the network infrastructure or components
	    o Acquire trigger criteria from appropriate parities (product owners, network engineers, customers) and configure triggering network equipment with the required trigger settings.
	    o Ensure that triggers record are documented and alerted the associated personnel
	    o Set monitoring equipment to monitor the threshold points. The monitoring equipment should produce the required statistics and report for analysis and, if necessary, trigger alarms
	    o Perform simulated tests of the monitoring equipment to verify the setting is correct
	    o Fully document the implementation steps with network diagrams showing where triggers start, end, monitoring threshold, etc. Extra user procedures will be required for any internally developed monitoring equipment/software
	    o Distribute copies of the document to appropriate parties (supervisor, network engineers, etc.) for vetting and filing in accordance with the organisation standards and procedures

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	○ Demonstrate the completion of the implementation with test results and acquire stakeholders or supervisor signoff ○ Ensure that all tools implemented are secured and complied with the organisation's cybersecurity policy 3. Exhibit professionalism • Follow safety procedures while configuring and implementing network monitoring equipment • Ensure documents conform to the organisation's standards and policies • Always take into consideration and strike a proper balance among all related technological, environmental and legal factors
Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to : • identify and fully understand the monitoring requirements from work orders and/or supervisors • identify the monitoring factors such as trigger points, threshold, and output requirements (logs, alerts, alarms, etc.) • correctly select the appropriate monitoring equipment to monitor the network functions and/or security of the network infrastructure • Ensure all tools implemented are secured and complied with the organisation's cybersecurity policy • successfully implement the monitoring by setting/adjusting/configuring monitoring devices to record statistics, trigger alarm/alert or send messages • successfully demonstrate the completion of the implementation of the monitoring equipment with test results and documentation
Remark	