

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – NETWORK ENGINEER		
Sector	Infocomm Technology	
Track	Infrastructure	
Sub-track	Build and Maintain	
Occupation	Infrastructure Engineer	
Job Role	Network Engineer	
Job Role Description	<p>The Network Engineer is responsible for the design, installation, configuration and maintenance of Software Defined Network (SDN) infrastructure. His primary responsibilities include the design and build of network infrastructure components, and integrating technologies from various virtualised servers and storage vendors. He/She manages and optimises complex core networks, and configures network equipment and software to ensure alignment with defined network performance levels and security standards and regulations. He collaborates across network and orchestration teams to ensure the smooth delivery of end-to-end network slicing and automation solutions.</p> <p>He is knowledgeable in the use of networking systems and devices, firewalls, wireless controls and technology, network standards including 5G, and network routing protocols. He may be required to work on a rotational on-call or shift basis.</p> <p>The Network Engineer is organised with strong analytical and troubleshooting skills. He has a passion for innovation and new technologies, and is adaptable to dynamic environments.</p>	
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks
	Configure and administer networks	Design cost-effective network systems and services that meet product specifications and comply to standards and best practices
		Prepare and execute test plans including integration, performance, coverage and capacity verification
		Review technical documents for processes, technology and devices
		Designate the direction for Local Area Network (LAN) and/or Wide Area Network (WAN), internet, wireless, and remote access services
		Validate the Software Defined Network (SDN) infrastructure within the IT ecosystem
		Oversee the installation, upgrading, operation, control, maintenance and effective use of LAN and/or WAN for the communication of data, voice, text or images
		Perform technical evaluation and proof-of-concept of new technologies for network infrastructure
		Review releases, upgrades and fixes available from systems software and supplies and identify those which merit action
	Manage network operations and incidents	Manage network infrastructure to ensure alignment of technical requirements
		Provide technical inputs on the procurement of network equipment and ensure compliance with procurement policies
		Develop the disaster recovery plan, processes and protocols for disaster recovery of network infrastructure
		Ensure disaster recovery plan testing activities are performed and technical criteria are met
		Perform network fault troubleshooting and root cause analysis to locate sources of network issues
		Develop and verify recovery solutions in test environments and execute in production network
		Implement automation workflow for the management of repeated network issues in collaboration with relevant teams
		Plan and coordinate network security measures for network infrastructure, software and data
	Manage network security	Review compliance with information security policies and standards
		Assess configurations and security procedures for adherence to legal and regulatory requirements

		Investigate and assess the risks of network attacks and recommend remedial action		
		Prioritise and resolve security incidents, and escalate where necessary		
Skills and Competencies	Technical Skills and Competencies		Generic Skills and Competencies	
	Budgeting	Level 3	Problem Solving	Advanced
	Business Environment Analysis	Level 3	Service Orientation	Intermediate
	Business Innovation	Level 4	Sense Making	Intermediate
	Business Needs Analysis	Level 3	Teamwork	Basic
	Business Requirements Mapping	Level 3	Decision Making	Basic
	Business Risk Management	Level 3		
	Change Management	Level 3		
	Configuration Tracking	Level 3		
	Contract Management	Level 3		
	Cyber and Data Breach Incident Management	Level 4		
	Emerging Technology Synthesis	Level 4		
	Infrastructure Design	Level 4		
	Network Administration and Maintenance	Level 3		
	Network Configuration	Level 3		
	Network Security	Level 4		
	Performance Management	Level 4		
	Problem Management	Level 3		
	Process Improvement and Optimisation	Level 3		
	Procurement	Level 3		
	Security Administration	Level 3		
	Solution Architecture	Level 4		
	Stakeholder Management	Level 3		
	Systems Design	Level 4		
	Test Planning	Level 3		
	Vendor Management	Level 4		
Programme Listing	For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict			

The information contained in this document serves as a guide.