

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – INFRASTRUCTURE ENGINEER		
Sector	Infocomm Technology	
Track	Infrastructure	
Sub-track	Build and Maintain	
Occupation	Infrastructure Engineer	
Job Role	Infrastructure Engineer	
Job Role Description	<p>The Infrastructure Engineer is responsible for the implementation, testing, optimisation and virtualisation of infrastructure across on-premise, cloud and network infrastructure. He/She performs activities pertaining to infrastructure deployment and performance to ensure delivery of infrastructure solutions in alignment with service standards. He oversees major maintenance and troubleshooting issues, and is responsible for executing upgrades to infrastructure systems.</p> <p>He is familiar with various types of infrastructure systems and platforms, including networks, servers, systems and applications.</p> <p>The Infrastructure Engineer takes a critical and methodical approach towards implementing infrastructure projects performance monitoring. He also maintains high standards of quality and collaborates with team members to resolve complex issues.</p>	
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks
	Oversee infrastructure deployment	Assist in the design and implementation of infrastructure solutions across on-premise and cloud infrastructure that adhere to current architecture standards
		Evaluate the feasibility of integrating or adopting emerging cloud and infrastructure technologies
		Lead the testing of implemented infrastructure solutions to ensure requirements are met
		Manage the integration of third-party technologies into cloud infrastructure
		Develop documentation on administration, installation, configuration and troubleshooting
		Develop system and service deployment scripts
		Conduct technical analysis of complex software, hardware and infrastructure equipment
		Oversee adherence to security requirements for infrastructure operations
	Optimise infrastructure performance and systems	Monitor metrics for performance, reliability, availability, security and billing of infrastructure systems to proactively right-size infrastructure load
		Analyse and present findings on infrastructure capabilities and limitations
		Tune infrastructure and cloud systems to ensure optimal performance
		Conduct technical analysis to determine the extent to which solutions perform “as required” to ensure that future solutions meet anticipated demand
		Support initiatives to improve the infrastructure systems and service delivery through automation and virtualisation
		Develop reports on performance, reliability and availability of infrastructure systems by review of service uptime, utilisation and throughput
	Resolve infrastructure-related incidents	Resolve escalated or major issues relating to infrastructure operations
		Simulate user problems to perform end-to-end diagnosis for infrastructure incidents
		Assist senior management in disaster recovery planning and testing
		Implement improvements to infrastructure resolution methods and techniques
		Maintain controls and documentation to ensure compliance with audit requirements

		Analyse audit trails to detect systematic security violations related to infrastructure		
		Oversee compliance to procedures and policies for infrastructure-related incidents		
		Guide and/or train teams to resolve infrastructure-related incidents		
	Manage infrastructure upgrades	Identify key infrastructure operations issues and maintenance priorities		
		Manage the implementation of agreed infrastructure change requests and maintenance routines		
		Organise schedules for planned maintenance and system back-up processes		
		Oversee improvements to maintenance capability by using automation for upgrades, enterprise back-up and storage		
Skills and Competencies	Technical Skills and Competencies		Generic Skills and Competencies	
	Applications Integration	Level 4	Service Orientation	Intermediate
	Budgeting	Level 3	Problem Solving	Advanced
	Business Environment Analysis	Level 3	Resource Management	Intermediate
	Business Innovation	Level 4	Teamwork	Basic
	Business Needs Analysis	Level 3	Sense Making	Intermediate
	Business Requirements Mapping	Level 3		
	Business Risk Management	Level 3		
	Change Management	Level 3		
	Cloud Computing	Level 4		
	Configuration Tracking	Level 3		
	Contract Management	Level 3		
	Cyber and Data Breach Incident Management	Level 4		
	Emerging Technology Synthesis	Level 4		
	Infrastructure Deployment	Level 4		
	Infrastructure Design	Level 4		
	Infrastructure Support	Level 4		
	Network Administration and Maintenance	Level 3		
	Network Configuration	Level 3		
	Network Security	Level 4		
	Partnership Management	Level 3		
	Performance Management	Level 4		
	Problem Management	Level 3		
	Process Improvement and Optimisation	Level 3		
	Procurement	Level 3		
	Quality Engineering	Level 4		
	Security Administration	Level 3		

	Service Level Management	Level 3	
	Software Configuration	Level 3	
	Solution Architecture	Level 4	
	Stakeholder Management	Level 3	
	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.