

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT

TSC Category	Design and Architecture					
TSC Title	Solution Architecture					
TSC Description	Design or refine a solution blueprint or structure to guide the development of IT solutions in hardware, software, processes or related components, to meet current and future business needs. The solution architecture developed may lead to broad or specific changes to IT services, operating models and processes, and should provide a framework to guide the development and modification of solutions					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
				ICT-DES-4006-1.1	ICT-DES-5006-1.1	ICT-DES-6006-1.1
				Develop a solution architecture and prepare a technical blueprint for a given area, demonstrating how the solution addresses requirements	Establish frameworks and determine relevant tools and techniques to guide the development IT solutions	Synthesise new trends and developments in or beyond the Infocomm Technology (ICT) industry, and lead the development of innovative and ground-breaking solutions that have significant industry impact
Knowledge				<ul style="list-style-type: none"> • Process for developing proof of concepts • Components of solution architecture • Objectives of solution architecture • Steps for developing solution architecture • Tools and techniques for solution architecture modelling • Technical blueprint design and construction process • Interactions among various IT components 	<ul style="list-style-type: none"> • Process for refining solution architecture • Applications of tools and modelling techniques for creation of solution architecture • Technical, functional and service considerations • Considerations for multiple aspects of the overall solution including performance, security, latency and other relevant aspect for the solution • Standards for coding, scalability, integration and reusability • Compatibility among multiple solution architecture components and design activities • Techniques to measure a solution's value-add 	<ul style="list-style-type: none"> • New technology, models and concepts • Emerging trends and schools of thought in the ICT and other industries

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Abilities				<ul style="list-style-type: none"> • Develop an architectural proof of concept • Develop a solution architecture utilising appropriate tools, techniques and models of system components and interfaces • Identify technical and practical requirements as well as stakeholders' demands • Prepare a technical blueprint for a solution in a given area • Demonstrate how the recommended IT solutions and components collectively address an existing business problem or need • Implement regular system reviews to monitor solution status and make modifications, according to an architecture management framework 	<ul style="list-style-type: none"> • Establish high level structures and frameworks to guide the development of IT solutions incorporating various processes, hardware and software components • Determine relevant design tools or modelling techniques required to develop a solution architecture and blueprint • Align requirements of various internal and external stakeholders, as well as technical, functional and service requirements within a solution architecture • Coordinate multiple solution architecture components and design activities, ensuring consistency and compatibility within a target framework • Articulate value added by the solution to the business needs • Establish processes to regularly monitor, test and review solution architecture against business requirements 	<ul style="list-style-type: none"> • Synthesise new technology, models and concepts as part of an IT solution • Articulate impact of emerging trends, schools of thought, and developments in and beyond the ICT industry on the solutions developed • Endorse architectural proof of concepts • Spearhead innovative and ground-breaking solutions that significantly impact the industry
Range of Application	<p>Types of Software Applications may include but are not limited to:</p> <ul style="list-style-type: none"> • Mobile/Native Applications • Augmented Reality/Virtual Reality Applications • Web Applications • Hybrid Applications • Cloud Applications <p>Types of methodologies may include but not limited to:</p> <ul style="list-style-type: none"> • DevOps 					

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TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT

	<ul style="list-style-type: none"> • Agile Software Development • Rational Unified Process • Systems Development Life Cycle (SDLC)
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