

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

<b>TSC Category</b>	Design and Architecture					
<b>TSC Title</b>	Infrastructure Design					
<b>TSC Description</b>	Establish design policies and principles covering elements of connectivity, capacity, security, access, interfacing as well as the translation of that into the specifications, outline and design of IT infrastructure within the organisation, in order to support the business requirements					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
			<b>ICT-DES-3003-1.1</b>	<b>ICT-DES-4003-1.1</b>	<b>ICT-DES-5003-1.1</b>	
			Translate a broader infrastructure blueprint into technical specifications and develop prototypes for simple infrastructure components	Define and deliver technical and conceptual visualisation of IT infrastructure components and features	Project infrastructure requirements and define IT infrastructure design policies and principles, evaluating the viability and managing the impact of design options	
<b>Knowledge</b>			<ul style="list-style-type: none"> <li>Components of IT infrastructure</li> <li>Technology and protocols appropriate for a given business environment</li> <li>Design specification process and techniques</li> <li>Prototyping tools and techniques</li> </ul>	<ul style="list-style-type: none"> <li>Design policies and principles for various elements of IT infrastructure design</li> <li>Implications of internal and external requirements on parameters of infrastructure components</li> <li>Architectural blueprint design</li> <li>Industry standards and best practices for determining layouts and connectivity of infrastructure</li> <li>Resource assessment and evaluation</li> <li>Techniques to estimate business performance from infrastructure design and specifications</li> </ul>	<ul style="list-style-type: none"> <li>Techniques to project future organisation needs</li> <li>Bi-directional business impact analysis, particularly in relation to IT infrastructure</li> <li>Current industry-accepted protocols and policies for networks, storage, servers, hardware and software products</li> <li>Architectural and conceptual design principles for various components of IT infrastructure</li> <li>Effective resource management including technology, manpower, and financial capabilities</li> <li>Strategies for infrastructure implementation</li> </ul>	

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Abilities			<ul style="list-style-type: none"><li>Assist as part of a design team to specify and outline parts of larger infrastructure components and systems</li><li>Translate a broader infrastructure design or blueprint into technical specifications and details</li><li>Apply well-defined design policy guidelines and parameters to draft design specifications of infrastructure components that address usage, performance and security requirements</li><li>Produce new and innovative prototypes for simple infrastructure components</li><li>Refine design specifications and prototypes based on inputs from internal / external stakeholders</li></ul>	<ul style="list-style-type: none"><li>Analyse organisation requirements to determine the infrastructure parameters and policies needed to support them</li><li>Assess various infrastructure models and deployment options for suitability to business operating context</li><li>Define various key components and features of the IT infrastructure, based on customer and compatibility requirements</li><li>Outline overall architectures, topologies, databases and design documentation of IT infrastructure</li><li>Deliver technical and conceptual visualisation of infrastructure components for approval by stakeholders</li><li>Develop prototypes or blueprints of complex / large infrastructure components</li><li>Evaluate infrastructure designs and the likely performance based on expected business needs, usage and traffic volume</li></ul>	<ul style="list-style-type: none"><li>Project current and future infrastructure requirements based on business direction and priorities</li><li>Establish IT infrastructure design policies and principles, in alignment with business needs</li><li>Evaluate a range of existing, new and emerging infrastructure models and deployment options</li><li>Articulate business impact of design options for critical infrastructure components and manage the associated implications and risks</li><li>Create culture of experimentation and innovation in infrastructure prototype development</li><li>Define hypotheses to guide the experimental design of an effective enterprise infrastructure</li><li>Review IT infrastructure designs to ensure they balance functional, security and service quality requirements</li><li>Develop logical or conceptual infrastructure designs as a preface to physical blueprints</li><li>Approve IT infrastructure physical designs for implementation</li></ul>	
Range of Application	Various kinds of infrastructure models may include but are not limited to: <ul style="list-style-type: none"><li>Telecommunications models</li></ul>					

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	<ul style="list-style-type: none"> <li>Platform systems models</li> <li>Virtualisation models</li> <li>Broadband models</li> </ul>
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