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| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – SECURITY ARCHITECT** | | | | | | | |
| **Sector** | Infocomm Technology | | | | | | |
| **Track** | Cyber Security | | | | | | |
| **Sub-track** | Security Design and Engineering | | | | | | |
| **Occupation** | ICT Security Specialist | | | | | | |
| **Job Role** | **Security Architect** | | | | | | |
| **Job Role Description** | The Security Architect leads unique and highly complex projects involving design, development and implementation of secure system architectures. He/She plans and monitors the design of artefacts into enterprise systems that describe security principles and how they relate to the overall enterprise system architecture. He is involved in the development and application of new solutions in infrastructure security. He recommends and leads the adoption of new technological advances and best practices in infrastructure security systems to mitigate security risks. He identifies and resolves unique and complex issues, which may have organisation-wide and long-term impact.  He is an expert in cyber security standards, protocols and frameworks, and ensures the organisation’s compliance to the Cyber Security Act 2018. He is knowledgeable of various application and hardware technologies and services.  The Security Architect has a creative and critical mind, and enjoys identifying linkages and interconnections among various parts of a system or architecture. He is a technical expert who should also be people-oriented, consultative, developmental and actively engaging stakeholders to design optimal secure system architectures. He also mentors and provides technical leadership to the junior staff. | | | | | | |
| **Critical Work Functions, Key Tasks and Performance Expectations** | **Critical Work Functions** | **Key Tasks** | | | | **Performance Expectations** | |
| **Formulate the organisation’s security architecture strategy, governance, roadmap, standards, policies and procedures** | Lead and coordinate the domain technical and business discussions | | | | In accordance with:     * Cyber Security Act 2018, Cyber Security Agency of Singapore | |
| Participate in ecosystem strategy development, environment analysis and opportunity identification | | | |
| Analyse, design and develop roadmaps and implementation plans based on a current versus future state | | | |
| Design standard configurations and patterns | | | |
| Lead and facilitate the business architecture governance process based on the enterprise architecture governance structure | | | |
| Manage exceptions to architectural standards at a security level | | | |
| Review and approve recommendations to security architectural standards | | | |
| **Develop architecture requirements and maintain oversight** | Analyse and develop security architectural requirements | | | |
| Align architectural requirements with IT strategy | | | |
| Assess near-term needs to establish business priorities | | | |
| Ensure compatibility with existing solutions, infrastructure, services and strategic requirements | | | |
| Coordinate architecture implementation and modification activities | | | |
| Assist in post-implementation and continuous improvement efforts to enhance performance and provide increased functionality | | | |
| Ensure conceptual completeness of the technical solution | | | |
| **Manage quality and continuous improvement of architecture** | Analyse the current architecture to identify weaknesses and develop opportunities for improvement | | | |
| Identify and propose variances to the architecture to accommodate project needs | | | |
| Perform ongoing architecture quality review activities | | | |
| **Research emerging technologies** | Consult with clients and IT teams on security architecture solutions | | | |
| Analyse cost versus benefits, risks, impact and technology priorities | | | |
| Provide recommendations on emerging technology to senior management | | | |
| Develop a communication plan for security architecture | | | |
| Lead the research and evaluation of emerging technology, industry and market trends to assist in project development | | | |
| Identify organisational requirements for resources | | | |
| **Translate security architecture into security solutions** | Oversee the development and maintenance of the organisation’s security strategy | | | |
| Oversee the translation of the security architecture to solutions | | | |
| Ensure adequate security solutions are in place throughout all IT systems and platforms | | | |
| Define the alignment of security governance with enterprise architecture governance | | | |
| Act as a security expert in application development, database design and network efforts | | | |
| Ensure compliance with enterprise and IT security policies and industry regulations | | | |
| Contribute to the alignment of security governance with enterprise architecture governance | | | |
| Evaluate secure solutions based on approved security architectures | | | |
| Explores new security technologies and architectures | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic Skills and Competencies** | | | |
| Business Needs Analysis | | Level 4 | Communication | | | Advanced |
| Cyber Risk Management | | Level 5 | Creative Thinking | | | Advanced |
| Emerging Technology Synthesis | | Level 4 | Developing People | | | Advanced |
| Infrastructure Design | | Level 4 | Problem Solving | | | Advanced |
| Network Security | | Level 5 | Sense Making | | | Advanced |
| Security Administration | | Level 4 |  | | | |
| Security Architecture | | Level 4, Level 5 |
| Solution Architecture | | Level 5 |
| Security Governance | | Level 5 |
| Security Programme Management | | Level 4, Level 5 |
| Security Strategy | | Level 5 |
| Stakeholder Management | | Level 5 |
| Strategy Implementation | | Level 5 |
| Strategy Planning | | Level 5 |
| **Programme Listing** | For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict | | | | | | |
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| The information contained in this document serves as a guide. | | | | | | | |