

JOB PROFILE

Profile Architect

MITA Career Level 4.1

Based on SFIA v8 Responsibility Levels

SUMMARY STATEMENT

Plans and is accountable for the implementation, integration and security, of business systems, software, solutions, platforms, infrastructure or networks.

MISSION

Designs, integrates and implements complex and secure ICT solutions from a technical perspective. Ensures that technical solutions, procedures and models for development are up-to-date and comply with standards. Watches technology development and integrates into new solutions. Acts as a mentor and guide for developers, TSOs and other technical employees.

DELIVERABLES

	In line with specific expertise:
Accountable	• Solution Specification • Integrated solution • Security
Responsible	• New technology integration proposal • System in operation
Contributor	• Design and development process of systems/components

MAIN TASKS – GENERIC – APPLICABLE TO ALL AREAS

- Providing authoritative advice and direction in a specialist area.
- Developing, implementing and testing a business continuity framework.
- Developing and communicating a multi-dimensional solution architecture to deliver agreed business outcomes.
- Developing and implementing plans, policies, and practices that control, protect and optimise the value of data assets.
- Ensuring methods and tools are adopted and used effectively throughout the organisation.
- Managing requirements through the entire delivery and operational life cycle.
- Planning, estimating and executing systems development work to time, budget and quality targets.
- Designing systems to meet specified requirements and agreed systems architectures.
- Planning, implementing and controlling activities to synthesise system components to create operational systems, products or services.
- Systematically creating new knowledge by data gathering, innovation, experimentation, evaluation and dissemination.
- Other duties as assigned.

ESSENTIAL BASIC ATTRIBUTES *Based on SFIA v8 according to Responsibility Levels (Appendix I)*

Autonomy	Works under general direction within a clear framework of accountability. Exercises substantial personal responsibility and autonomy. Uses substantial discretion in identifying and responding to complex issues and assignments as they relate to the deliverable/scope of work. Escalates when issues fall outside their framework of accountability. Plans, schedules and monitors work to meet given objectives and processes to time and quality targets.
Influence	Influences customers, suppliers and partners at account level. Makes decisions which influence the success of projects and team objectives. May have some responsibility for the work of others and for the allocation of resources. Engages with and contributes to the work of cross-functional teams to ensure that customers and user needs are being met throughout the deliverable/scope of work. Facilitates collaboration between stakeholders who share common objectives. Participates in external activities related to own specialism.
Complexity	Work includes a broad range of complex technical or professional activities, in a variety of contexts. Investigates, defines and resolves complex issues. Applies, facilitates and develops creative thinking concepts or finds innovative ways to approach a deliverable.
Business Skills	Communicates fluently, orally and in writing, and can present complex information to both technical and non-technical audiences when engaging with colleagues, users/customers, suppliers and partners. Selects appropriately from, and assesses the impact of change to applicable standards, methods, tools, applications and processes relevant to own specialism. Demonstrates an awareness of risk and takes an analytical approach to work. Maximises the capabilities of applications for their role and evaluates and supports the use of new technologies and digital tools. Contributes specialist expertise to requirements definition in support of proposals. Shares knowledge and experience in own specialism to help others. Learning and professional development — maintains an awareness of developing practices and their application and takes responsibility for driving own development. Takes the initiative in identifying and negotiating their own and supporting team members' appropriate development opportunities. Contributes to the development of others. Security, privacy and ethics — fully understands the importance and application to own work and the operation of the organisation. Engages or works with specialists as necessary.
Knowledge	Has a thorough understanding of recognised generic industry bodies of knowledge and specialist bodies of knowledge as necessary. Has gained a thorough knowledge of the domain of the organisation. Is able to apply the knowledge effectively in unfamiliar situations and actively maintains own knowledge and shares with others. Rapidly absorbs and critically assesses new information and applies it effectively.

ESSENTIAL PROFESSIONAL ATTRIBUTES *Based on SFIA v6 (Appendix I) – Generic – Applicable to All Areas*

Code	Description	SFIA Level
TECH	Specialist Advice	4
COPL	Continuity Management	4
ARCH	Solutions Architecture	5
DATM	Data Management	4
METL	Methods and Tools	4
REQM	Requirements Definition and Management	4
DLMG	Systems Development Management	5
DESN	Systems Design	4
SINT	Systems Integration and Build	4
RSCH	Research	2

ESSENTIAL SOFT SKILLS *Based on ESCO database (Appendix II)*

Social Skills – Working with others and as a team
 Attitudes and Values
 Thinking – Creative and Analytical
 Communication – Verbal and non-Verbal

CERTIFICATION

Name Relevant Professional Certification
Mandatory No

ELIGIBILITY CRITERIA

One of the following in an area related to ICT:

- i. A qualification in a related area (MQF Level 7 OR higher) OR
- ii. A qualification in a related area (MQF Level 6) AND an additional 1 year experience in a related area; OR
- iii. A qualification in a related area (MQF Level 5) AND an additional 3 years experience in a related area; OR
- iv. A qualification in a related area (MQF Level 4) AND an additional 4 years experience in a related area; OR
- v. 5 years' experience in a related area.

REPORTING LINE

Reports to Head of Department or delegate
Interacts with Peers
Supervises N/A

WORKING CONDITIONS

Normal hours with the possibility to provide support in crisis situations after office hours or on weekends. Abnormal support may be required on roster basis.

APPENDIX I. - SFIA SKILLS DEFINITION

TECH Specialist Advise: Level 4 Provides detailed and specific advice regarding the application of their specialism to the organisation's planning and operations. Actively maintains knowledge in one or more identifiable specialisms. Recognises and identifies the boundaries of their own specialist knowledge. Where appropriate, collaborates with other specialists to ensure advice given is appropriate to the organisation's needs.

COPL Continuity Management: Level 4 Contributes to the development of continuity management plans. Identifies information and communication systems that support critical business processes. Coordinates the business impact analysis and the assessment of risks. Coordinates the planning, designing, and testing of contingency plans

ARCH Solutions Architecture: Level 5 Leads the development of solution architectures in specific business, infrastructure or functional areas. Leads the preparation of technical plans and ensures that appropriate technical resources are made available. Ensures that appropriate tools and methods are available, understood and employed in architecture development. Provides technical guidance and governance on solution development and integration. Evaluates requests for changes and deviations from specifications and recommends actions. Ensures that relevant technical strategies, policies, standards and practices (including security) are applied correctly.

DATM Data Management: Level 4 Devises and implements master data management processes for specific subsets of data. Assesses the integrity of data from multiple sources. Provides advice on the transformation of data from one format/medium to another. Maintains and implements information handling procedures. Enables the availability, integrity and searchability of information through the application of formal data and metadata structures and protection measures.

METL Methods and Tools: Level 4 Provides advice and guidance to support the adoption of methods and tools and adherence to policies and standards. Tailors processes in line with agreed standards and evaluation of methods and tools. Reviews and improves usage and application of methods and tools.

REQM Requirements Definition and Management: Level 4 Defines and manages scoping, requirements definition and prioritisation activities for initiatives of medium size and complexity. Contributes to selecting the requirements approach. Facilitates input from stakeholders, provides constructive challenge and enables effective prioritisation of requirements. Establishes requirements base-lines, obtains formal agreement to requirements, and ensures traceability to source.

DLMG Systems Development Management: Level 5 Plans and drives systems development projects which support the organisation's objectives and plans. Selects, adopts and adapts appropriate systems development methods, tools and techniques. Ensures that stakeholders are aware of required resources and that they are made available. Facilitates availability and optimum utilisation of resources. Monitors and reports on the progress of development projects. Ensures projects are carried out in accordance with agreed architectures, standards, methods and tools and addresses security and privacy requirements. Develops road maps to communicate future development activity.

DESN Systems Design: Level 4 Designs system components using appropriate modelling techniques following agreed architectures, design standards, patterns and methodology. Identifies and evaluates alternative design options and trade-offs. Creates multiple design views to address the concerns of the different stakeholders and to handle functional and non-functional requirements. Models, simulates or prototypes the behaviour of proposed system components to enable approval by stakeholders. Produces detailed design specifications to form the basis for the construction of systems. Reviews, verifies and improves own designs against specifications.

SINT Systems Integration and Build 4 Provides technical expertise to enable the configuration of system components and equipment for systems testing. Collaborates with technical teams to develop and agree system integration plans and report on progress. Defines complex/new integration builds. Ensures that integration test environments are correctly configured. Designs, performs and reports results of tests of the integration build. Identifies and documents system integration components for

recording in the configuration management system. Recommends and implements improvements to processes and tools.

RSCH Research: Level 2 Within given research goals, assists in selection and review of credible and reliable resources. Searches for relevant material using specialised websites and sources, reads relevant articles to update knowledge of the relevant field. Reports on work carried out and may contribute sections of publication-quality material. Curates, under guidance, a personal collection of relevant material.

APPENDIX I.I - DATA**Main Tasks**

- Defining and operating a framework of security controls and security management strategies.
- Installing, configuring, monitoring, maintaining and improving the performance of databases and data stores.
- Specifying, designing and maintaining mechanisms for storing and accessing data.
- Developing models and diagrams to represent and communicate data requirements and data assets.
- Developing, producing and delivering regular and one-off management information to provide insights and aid decision-making.
- Facilitating understanding of data by displaying concepts, ideas, and facts using graphical representations.
- Developing software components to deliver value to stakeholders.
- Planning, identifying, controlling, accounting for and auditing of configuration items (CIs) and their interrelationships.
- Applying the processes, systems and functions required to make new and changed services and features available for use.
- Investigating business situations to define recommendations for improvement action.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.1)

Code	Description	SFIA Level
SCTY	Information Security	3
DBAD	Database Administration	3
DBDS	Database Design	3
DTAN	Data Modelling and design	3
BINT	Business Intelligence	3
VISL	Data Visualisation	3
PROG	Programming / Software Development	3
CFMG	Configuration Management	2
RELM	Release and Deployment	3
BUSA	Business Situation Analysis	4

APPENDIX I.I - SFIA SKILLS DEFINITION - DATA

SCTY Information Security: Level 3 Applies and maintains specific security controls as required by organisational policy and local risk assessments. Communicates security risks and issues to business managers and others. Performs basic risk assessments for small information systems. Contributes to the identification of risks that arise from potential technical solution architectures. Suggests alternate solutions or countermeasures to mitigate risks. Defines secure systems configurations in compliance with intended architectures. Supports investigation of suspected attacks and security breaches.

DBAD Database Administration: Level 3 Performs standard database maintenance and administration tasks. Uses database management system software and tools to collect performance statistics.

DBDS Database Design: Level 3 Interprets installation standards to meet project needs and produces database or data warehouse component specifications. Develops appropriate physical database or data warehouse design elements, within set policies, to meet data requirements.

DTAN Data Modelling and Design: Level 3 Applies standard data modelling and design techniques based upon a detailed understanding of requirements. Establishes, modifies and maintains data structures and associated components. Communicates the details of data structures and associated components to others using the data structures and associated components.

BINT Business Intelligence: Level 3 Sources and prepares data for analysis and performs standard business intelligence analysis activities. Creates and delivers standard reports in accordance with stakeholder needs and conforming to agreed standards. Investigates the need for new or revised business intelligence analysis. Contributes to the recommendation of improvements. Engages with stakeholders under direction.

VISL Data Visualisation: Level 3 Uses a visualisation product, as guided, to design and create data visuals. Selects appropriate visualisation techniques from the options available. Engages with the target user to prototype and refine specified visualisations.

PROG Programming / Software Development: Level 3 Designs, codes, verifies, tests, documents, amends and refactors moderately complex programs/scripts. Applies agreed standards and tools to achieve a well-engineered result. Monitors and reports on progress. Identifies issues related to software development activities. Proposes practical solutions to resolve issues. Collaborates in reviews of work with others as appropriate.

CFMG Configuration Management: Level 2 Assists with applying tools, techniques and processes to administer, track, log, report on and correct configuration items, components and changes. Assists with audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

RELM Release and Deployment: Level 3 Uses approved tools and techniques for specific deployment activities. Administers the recording of activities, logging of results and documents technical activities undertaken.

BUSA Business Situation Analysis: Level 4 Investigates business situations where there is some complexity and ambiguity. Adopts holistic view to identify and analyse problems and opportunities. Contributes to the selection of the approach and techniques to be used for business situation analysis. Conducts root cause analysis and identifies recommendations for improvements. Engages and collaborates with operational stakeholders.

APPENDIX I.2 - Networks

Main Tasks

- Defining and operating a framework of security controls and security management strategies.
- Deploying, configuring and operating IT Infrastructure.
- Providing maintenance and support services for communications networks.
- Designing communication networks to support strategic and operational requirements and producing network strategies, architectures, policies and related documentation.
- Developing software components to deliver value to stakeholders.
- Delivering management, technical and administrative services to implement security controls and security management strategies.
- Planning, identifying, controlling, accounting for and auditing of configuration items (CIs) and their interrelationships.
- Applying the processes, systems and functions required to make new and changed services and features available for use.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.2)

Code	Description	SFIA Level
SCTY	Information Security	3
ITOP	IT Infrastructure	4
NTAS	Network Support	4
NTDS	Network Design	5
PROG	Programming/Software Development	2
SCAD	Security Operations	3
CFMG	Configuration Management	2
RELM	Release and Deployment	3

APPENDIX I.2 - SFIA SKILLS DEFINITION - NETWORKS

SCTY Information Security: Level 3 Applies and maintains specific security controls as required by organisational policy and local risk assessments. Communicates security risks and issues to business managers and others. Performs basic risk assessments for small information systems. Contributes to the identification of risks that arise from potential technical solution architectures. Suggests alternate solutions or countermeasures to mitigate risks. Defines secure systems configurations in compliance with intended architectures. Supports investigation of suspected attacks and security breaches.

ITOP IT Infrastructure: Level 4 Provides technical expertise to enable the correct application of operational procedures. Contributes to the planning and implementation of infrastructure maintenance and updates. Implements agreed infrastructure changes and maintenance routines. Uses infrastructure management tools to determine load and performance statistics. Configures tools and/or creates scripts to automate the provisioning, testing and deployment of new and changed infrastructure. Maintains operational procedures and checks that they are executed following agreed standards. Investigates and enables the resolution of operational issues. Provides reports and proposals for improvement, to specialists, users and managers.

NTAS Network Support: Level 4 Maintains the network support process and checks that all requests for support are dealt with according to agreed procedures. Ensures network configurations are

applied to meet operational requirements in line with agreed procedures. Uses network management software and tools to investigate and diagnose network problems, collect performance statistics and create reports.

NTDS Network Design: Level 5 Produces, or approves network providers', network architectures, topologies and configuration databases for own area of responsibility. Specifies design parameters for network connectivity, capacity, speed, interfacing, security and access, in line with business requirements. Assesses network-related risks and specifies recovery routines and contingency procedures. Creates multiple design views to address the different stakeholders' concerns and to handle both functional and non-functional requirements.

PROG Programming/Software Development: Level 2 Assists in designing, coding, verifying, testing, documentation, amendments and refactoring in simple programs/scripts. Applies agreed standards and tools to achieve a well-engineered result. Reviews own work.

SCAD Security Operations: Level 3 Investigates minor security breaches in accordance with established procedures. Assists users in defining their access rights and privileges. Performs non-standard operational security tasks. Resolves security events and operational security issues.

CFMG Configuration Management: Level 2 Assists in applying tools, techniques and processes to administer, track, log, report on and correct configuration items, components and changes. Assists with audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

RELM Release and Deployment: Level 3 Uses approved tools and techniques for specific deployment activities. Administers the recording of activities, logging of results and documents technical activities undertaken.

APPENDIX I.3 - Platforms

Main Tasks

- Defining and operating a framework of security controls and security management strategies.
- Installing, configuring, monitoring, maintaining and improving the performance of databases and data stores.
- Deploying, configuring and operating IT Infrastructure.
- Providing maintenance and support services for communications networks.
- Specifying, designing and maintaining mechanisms for storing and accessing data.
- Developing software components to deliver value to stakeholders.
- Planning, identifying, controlling, accounting for and auditing of configuration items (CIs) and their interrelationships.
- Applying the processes, systems and functions required to make new and changed services and features available for use.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.3)

Code	Description	SFIA Level
SCTY	Information Security	3
DBAD	Database Administration	4
ITOP	IT Infrastructure	4
NTAS	Network Support	4
DBDS	Database Design	4
PROG	Programming/Software Development	2
CFMG	Configuration Management	2
RELM	Release and Deployment	2

APPENDIX I.3 - SFIA SKILLS DEFINITION - PLATFORMS

SCTY Information Security: Level 3 Applies and maintains specific security controls as required by organisational policy and local risk assessments. Communicates security risks and issues to business managers and others. Performs basic risk assessments for small information systems. Contributes to the identification of risks that arise from potential technical solution architectures. Suggests alternate solutions or countermeasures to mitigate risks. Defines secure systems configurations in compliance with intended architectures. Supports investigation of suspected attacks and security breaches.

DBAD Database Administration: Level 4 Develops and configures tools to enable automation of database administration tasks. Monitors performance statistics and create reports. Identify and investigates complex problems and issues and recommends corrective actions. Performs routine configuration, installation, and reconfiguration of database and related products.

ITOP IT Infrastructure: Level 4 Provides technical expertise to enable the correct application of operational procedures. Contributes to the planning and implementation of infrastructure maintenance and updates. Implements agreed infrastructure changes and maintenance routines. Uses infrastructure management tools to determine load and performance statistics. Configures tools and/or creates scripts to automate the provisioning, testing and deployment of new and changed infrastructure. Maintains operational procedures and checks that they are executed following agreed

standards. Investigates and enables the resolution of operational issues. Provides reports and proposals for improvement, to specialists, users and managers.

NTAS Network Support: Level 4 Maintains the network support process and checks that all requests for support are dealt with according to agreed procedures. Ensures network configurations are applied to meet operational requirements in line with agreed procedures. Uses network management software and tools to investigate and diagnose network problems, collect performance statistics and create reports.

DBDS Database Design: Level 4 Implements physical database designs to support transactional data requirements for performance and availability. Develops and maintains specialist knowledge of database and data warehouse concepts, design principles, architectures, software and facilities. Assesses proposed changes to object/data structures and evaluates alternative options. Implements data warehouse designs that support demands for business intelligence and data analytics.

PROG Programming/Software Development: Level 2 Assists in designing, coding, verifying, testing, documenting, amending and refactoring simple programs/scripts. Assists in applying agreed standards and tools to achieve a well-engineered result. Reviews own work.

CFMG Configuration Management: Level 2 Assists in applying tools, techniques and processes to administer, track, log, report on and correct configuration items, components and changes. Assists with audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

RELM Release and Deployment Level 2 This skill is not typically observed or practiced at these levels of responsibility and accountability.

APPENDIX I. 4 - Security

Main Tasks

- Defining and operating a framework of security controls and security management strategies.
- Deploying, configuring and operating IT Infrastructure.
- Providing maintenance and support services for communications networks.
- Specifying, designing and maintaining mechanisms for storing and accessing data.
- Developing software components to deliver value to stakeholders.
- Delivering management, technical and administrative services to implement security controls and security management strategies.
- Testing the effectiveness of security controls by emulating the tools and techniques of likely attackers.
- Identifying and classifying security vulnerabilities in networks, systems and applications and mitigating or eliminating their impact.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.4)

Code	Description	SFIA Level
SCTY	Information Security	4
ITOP	IT Infrastructure	3
NTAS	Network Support	3
DBDS	Database Design	3
PROG	Programming/Software Development	2
SCAD	Security Operations	4
PENT	Penetration Testing	3
VUAS	Vulnerability Assessment	3

APPENDIX I.4 - SFIA SKILLS DEFINITION - SECURITY

SCTY Information Security: Level 4 Provides guidance on the application and operation of elementary physical, procedural and technical security controls. Explains the purpose of security controls and performs security risk and business impact analysis for medium complexity information systems. Identifies risks that arise from potential technical solution architectures. Designs alternate solutions or countermeasures and ensures they mitigate identified risks. Investigates suspected attacks and supports security incident management.

ITOP IT Infrastructure: Level 3 Provisions/installs, configures and maintains infrastructure services and components. Monitors, measures and reports on infrastructure load, performance and security events. Identifies operational issues and contributes to their resolution. Carries out agreed operational procedures, including backup/restore, using supplied infrastructure tools and scripts. Carries out agreed system software maintenance tasks. Automates routine system administration tasks to specifications using standard tools and basic scripting.

NTAS Network Support: Level 3 Carries out agreed network maintenance tasks and specified operational configuration of network components. Establish and diagnose network problems/faults

using the required troubleshooting methodology and tools. Uses network management software and tools to collect agreed performance and traffic statistics.

DBDS Database Design: Level 3 Interprets installation standards to meet project needs and produces database or data warehouse component specifications. Develops appropriate physical database or data warehouse design elements, within set policies, to meet data requirements.

PROG Programming/Software Development: Level 2 Designs, codes, verifies, tests, documents, amends and refactors simple programs/scripts. Applies agreed standards and tools to achieve a well-engineered result. Reviews own work.

SCAD Security Operations: Level 4 Maintains operational security processes and checks that all requests for support are dealt with according to agreed procedures. Provides advice on defining access rights and the application and operation of elementary physical, procedural and technical security controls. Investigates security breaches in accordance with established procedures and recommends required actions. Provides support and checks that corrective actions are implemented.

PENT Penetration Testing: Level 3 Follows standard approaches to design and execute penetration testing activities. Researches and investigates attack techniques and recommend ways to defend against them. Analyses and reports on penetration testing activities, results, issues and risks.

VUAS Vulnerability Assessment Level 3 Follows standard approaches to performs basic vulnerability assessments for small information systems. Supports creation of catalogues of information and technology assets for vulnerability assessment.

APPENDIX I. 5 - SOLUTIONS**Main Tasks**

- Defining and operating a framework of security controls and security management strategies.
- Installing, configuring, monitoring, maintaining and improving the performance of databases and data stores.
- Deploying, configuring and operating IT Infrastructure.
- Providing maintenance and support services for communications networks.
- Specifying, designing and maintaining mechanisms for storing and accessing data.
- Developing software components to deliver value to stakeholders.
- Developing models and diagrams to represent and communicate data requirements and data assets.
- Planning, identifying, controlling, accounting for and auditing of configuration items (CIs) and their interrelationships.
- Applying the processes, systems and functions required to make new and changed services and features available for use.
- Investigating business situations to define recommendations for improvement action.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.5)

Code	Description	SFIA Level
SCTY	Information Security	3
DBAD	Database Administration	3
ITOP	IT Infrastructure	3
NTAS	Network Support	3
DBDS	Database Design	3
PROG	Programming/Software Development	4
DTAN	Data Modelling and Design	3
CFMG	Configuration Management	2
RELM	Release and Deployment	3
BUSA	Business Situation Analysis	3

APPENDIX I.5 - SFIA SKILLS DEFINITION - SOLUTIONS

SCTY Information Security: Level 3 Applies and maintains specific security controls as required by organisational policy and local risk assessments. Communicates security risks and issues to business managers and others. Performs basic risk assessments for small information systems. Contributes to the identification of risks that arise from potential technical solution architectures. Suggests alternate solutions or countermeasures to mitigate risks. Defines secure systems configurations in compliance with intended architectures. Supports investigation of suspected attacks and security breaches.

DBAD Database Administration: Level 3 Performs standard database maintenance and administration tasks. Uses database management system software and tools to collect performance statistics.

ITOP IT Infrastructure: Level 3 Provisions/installs, configures and maintains infrastructure services and components. Monitors, measures and reports on infrastructure load, performance and security

events. Identifies operational issues and contributes to their resolution. Carries out agreed operational procedures, including backup/restore, using supplied infrastructure tools and scripts. Carries out agreed system software maintenance tasks. Automates routine system administration tasks to specifications using standard tools and basic scripting.

NTAS Network Support: Level 3 Carries out agreed network maintenance tasks and specified operational configuration of network components. Establish and diagnose network problems/faults using the required troubleshooting methodology and tools. Uses network management software and tools to collect agreed performance and traffic statistics.

DBDS Database Design: Level 3 Interprets installation standards to meet project needs and produces database or data warehouse component specifications. Develops appropriate physical database or data warehouse design elements, within set policies, to meet data requirements.

PROG Programming/Software Development: Level 4 Designs, codes, verifies, tests, documents, amends and refactors complex programs/scripts and integration software services. Contributes to the selection of the software development methods, tools and techniques. Applies agreed standards and tools to achieve well-engineered outcomes. Participates in reviews of own work and leads reviews of colleagues' work.

DTAN Data Modelling and Design: Level 3 Applies standard data modelling and design techniques based upon a detailed understanding of requirements. Establishes, modifies and maintains data structures and associated components. Communicates the details of data structures and associated components to others using the data structures and associated components.

CFMG Configuration Management: Level 2 Assists in applying tools, techniques and processes to administer, track, log, report on and correct configuration items, components and changes. Assists with audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

RELM Release and Deployment Level 3 Uses approved tools and techniques for specific deployment activities. Administers the recording of activities, logging of results and documents technical activities undertaken.

BUSA Business Situation Analysis: Level 3 Investigates straightforward business situations to identify and analyse problems and opportunities. Contributes to the recommendation of improvements. Follows agreed standards and techniques to investigate, analyse and document business situations. Engages with stakeholders under direction.

APPENDIX I. 6 - TECHNOLOGY**Main Tasks**

- Defining and operating a framework of security controls and security management strategies.
- Identifying and assessing new and emerging technologies, products, services, methods and techniques.
- Installing, configuring, monitoring, maintaining and improving the performance of databases and data stores.
- Deploying, configuring and operating IT Infrastructure.
- Providing maintenance and support services for communications networks.
- Specifying, designing and maintaining mechanisms for storing and accessing data.
- Planning, identifying, controlling, accounting for and auditing of configuration items (CIs) and their interrelationships.
- Applying the processes, systems and functions required to make new and changed services and features available for use.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.6)

Code	Description	SFIA Level
SCTY	Information Security	3
EMRG	Emerging Technology Monitoring	4
DBAD	Database Administration	3
ITOP	IT Infrastructure	3
NTAS	Network Support	3
DBDS	Database Design	3
PROG	Programming/Software Development	2
CFMG	Configuration Management	2
RELM	Release and Deployment	3

APPENDIX I.6 - SFIA SKILLS DEFINITION - TECHNOLOGY

SCTY Information Security: Level 3 Applies and maintains specific security controls as required by organisational policy and local risk assessments. Communicates security risks and issues to business managers and others. Performs basic risk assessments for small information systems. Contributes to the identification of risks that arise from potential technical solution architectures. Suggests alternate solutions or countermeasures to mitigate risks. Defines secure systems configurations in compliance with intended architectures. Supports investigation of suspected attacks and security breaches.

EMRG Emerging Technology Monitoring: Level 4 Supports monitoring of the external environment and assessment of emerging technologies. Contributes to the creation of reports, technology road mapping and the sharing of knowledge and insights.

DBAD Database Administration: Level 3 Performs standard database maintenance and administration tasks. Uses database management system software and tools to collect performance statistics.

ITOP IT Infrastructure: Level 3 Provisions/installs, configures and maintains infrastructure services and components. Monitors, measures and reports on infrastructure load, performance and security events. Identifies operational issues and contributes to their resolution. Carries out agreed

operational procedures, including backup/restore, using supplied infrastructure tools and scripts. Carries out agreed system software maintenance tasks. Automates routine system administration tasks to specifications using standard tools and basic scripting.

NTAS Network Support: Level 3 Carries out agreed network maintenance tasks and specified operational configuration of network components. Establish and diagnose network problems/faults using the required troubleshooting methodology and tools. Uses network management software and tools to collect agreed performance and traffic statistics.

DBDS Database Design: Level 3 Interprets installation standards to meet project needs and produces database or data warehouse component specifications. Develops appropriate physical database or data warehouse design elements, within set policies, to meet data requirements.

PROG Programming/Software Development: Level 2 Designs, codes, verifies, tests, documents, amends and refactors simple programs/scripts. Applies agreed standards and tools to achieve a well-engineered result. Reviews own work.

CFMG Configuration Management: Level 2 Applies tools, techniques and processes to administer, track, log, report on and correct configuration items, components and changes. Assists with audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

RELM Release and deployment: Level 3 Uses approved tools and techniques for specific deployment activities. Administers the recording of activities, logging of results and documents technical activities undertaken.

APPENDIX I. 7 - BUSINESS

Main Tasks

- Creating new and potentially disruptive approaches to performing business activities.
- Developing products or services through their full life cycle from inception, growth, maturity, decline to retirement.
- Producing abstract or distilled representations of real-world, business or gaming situations.
- Specifying, designing and maintaining mechanisms for storing and accessing data.
- Defining, evaluating and describing business change options for financial, technical and business feasibility, and strategic alignment.
- Planning, designing and implementing activities to transition the organisation and people to the required future state.
- Investigating business situations to define recommendations for improvement action.

ESSENTIAL PROFESSIONAL ATTRIBUTES Based on SFIA v8 (Appendix 1.7)

Code	Description	SFIA Level
BPRE	Business Process Improvement	5
PROD	Product Management	3
BSMO	Business Modelling	4
DBDS	Database Design	3
FEAS	Feasibility Assessment	3
CIPM	Organisational Change Management	3
BUSA	Business Situation Analysis	4

APPENDIX I. 7 - SFIA SKILLS DEFINITION - BUSINESS

BPRE Business Process Improvement: Level 5 Manages the execution of business process improvements. Analyses and designs business processes to identify alternative solutions to improve efficiency, effectiveness and exploit new technologies and automation. Develops graphical models of business processes to facilitate understanding and decision-making. Assesses the feasibility of business process changes and recommends alternative approaches. Selects, tailors and implements methods and tools for improving business processes at programme, project or team level. Contributes to the definition of organisational policies, standards, and guidelines for business process improvement.

PROD Product Management: Level 3 Creates and curates a range of media to support the promotion, marketing and sales of products or service. Monitors results and feedback from product campaigns. Applies standard techniques and tools to carry out analysis and performance monitoring activities for specified products. Supports problem resolution, resolves issues and acts on feedback and usage of in-life products.

BSMO Business modelling: Level 4 Conducts advanced modelling activities for significant change programmes and across multiple business functions. Has in-depth knowledge of organisation-specific techniques. Plans own modelling activities, selecting appropriate techniques and the correct level of

detail for meeting assigned objectives. May contribute to discussions about the choice of modelling approach. Obtains input from and communicates modelling results to senior managers for agreement.

DBDS Database Design: Level 3 Interprets installation standards to meet project needs and produces database or data warehouse component specifications. Develops appropriate physical database or data warehouse design elements, within set policies, to meet data requirements.

FEAS Feasibility Assessment: Level 3 Supports option identification and feasibility assessment. Selects and employs standard techniques to get the information required for feasibility assessment. Supports identification of tangible costs and benefits, and development of business cases.

CIPM Organisational Change Management: Level 3 Follows standard techniques to investigate and analyse the size, nature and impact of changes to operational activities. Contributes to the recommendations for change management plans and actions. Supports implementation and engages with stakeholders under direction.

BUSA Business Situation Analysis: Level 4 Investigates business situations where there is some complexity and ambiguity. Adopts holistic view to identify and analyse problems and opportunities. Contributes to the selection of the approach and techniques to be used for business situation analysis. Conducts root cause analysis and identifies recommendations for improvements. Engages and collaborates with operational stakeholders.

APPENDIX II - ESCO DATABASE**Social Skills**

Working with Others - work as part of a team

- Accept constructive criticism
- Collaborate on tasks
- Foster social networks
- Give constructive criticism
- Share information
- Share opinions
- Share resources

Attitudes and Values at Work

Attitudes

- Demonstrated commitment – attend to detail, attend to quality, be curious, make an effort, meet commitments, persist, show enthusiasm, work efficiently, work independently
- Handles challenges – adapts to changes, build on experience, cope with pressure, deal with uncertainty, learn from mistakes, manage frustration

Values

- Follow ethical work practice – identify environmental impact, identify ethical issues, identify social impact, make ethical choices, reflect on own work practices
- Show respect – demonstrate tolerance, show consideration, show good manners, treat people fairly, work with different viewpoints

Thinking

Creative and Entrepreneurship

- Generate new ideas – anticipate needs, experiment, recognise opportunity, show originality, visualise completed work
- Turn new ideas into action – adapt implementation strategy, create implementation strategy, produce original work

Critical thinking

- Examine evidence – check facts, consider alternative views, consider impact of judgement, critique reasoning, notice bias
- Explore issues – ask key questions, draw conclusions, explain reasoning, identify live topics, identify patterns, make judgements, question assumptions, recognise connections

Learning

- Manage learning process – monitor learning process, plan learning, use different learning strategies
- Manage the learning self – prioritise learning tasks, reflect on learning process

Planning own work

- Follow plan – monitor progress
- Manage time – work out time line
- Sets target – identify tasks

Problem Solving

- Analyse the problem – examine causes of problem, explore context of problem, identify stakeholders involved
- Plan for action – devise strategy, prioritise actions, set goals
- Take action to solve the problem – coordinate actions, evaluate success, implement strategy, multi task, troubleshoot

Communication

Non-verbal communication

- Respond to cultural differences

- Understands non-verbal cues – read different types of eye contact, read different types of touch, read facial expressions, understand gestures, understand postures, understand uses of personal space
- Use non-verbal cues – make appropriate use of eye contact, make appropriate use of personal space, make appropriate use of touch, use appropriate facial expressions, use appropriate gestures, use appropriate postures

Verbal communication

- Spoken interaction – debating techniques, interrogating, negotiating, persuading
- Spoken production – presentation techniques