Transport for Greater Manchester

Role Profile

Role:	**Technical Architect**
Directorate:	Information Systems
Salary Band:	Technical Architect Band 8 Senior Technical Architect Band 9 Lead Technical Architect Band 10
Post reference:	IS187
Job Evaluation Ref & Date:	13/08/19
Role statement of purpose:	Provides technical leadership and architectural design solutions for TfGM IS products and services. Takes ownership of a specialist architectural area where they have deep knowledge yet is able to deliver knowledge and solutions in several other disciplines. Is good with stakeholders and customer communication, able to translate complex technical solutions into audience-appropriate content.
Reports to:	Technical Architect Senior or Lead TA Senior Technical Architect Lead TA Lead Technical Architect Head of IS Technology or Head of IS

Key Role Outputs(KROs) *these set out what must be achieved for the post holder to be successful in the role*	Key Actions *These set out how the KROs will be achieved – the activities required.*
Technical Architect A Technical Architect is highly technically proficient in a specific technical discipline and has a good level of capability in other areas. They are regarded by others as technology leaders in their areas and capable of providing well-reasoned solutions that meet customer needs well. They have a good proficiency in architectural capability in solution design and delivery and are able to communicate solutions and designs effectively to a wide range of stakeholders and customers.	
1. Delivery of high-quality solutions for TfGM customers and staff that meet identified business goals	• Designs and contributes to the technical solutions in a project as the design authority, ensuring all solutions dovetail into each other to deliver a seamless design experience • Translates IS, business and customer requirements into technology solutions

		• Develops and communicates fit-for-purpose 'as-is' and 'to-be' architectures • Assesses the delivery quality in relation to designs and strategies and ensures delivery meets design principles • Is able to adapt designs to changing business and technology environment requirements across the lifetime of a delivery and in-life services • Identifies issues related to the implementation of designs and acts as the design authority in identifying the solution variances required across all technology disciplines, co-ordinating with multi-disciplinary teams to do so
2.	Fit-for-purpose technology designs and decisions that meet project requirements and core TfGM design principles	• Acts as the owner of technology architecture and designs for projects and activities • Leads the planning and scoping of design variation as a result of changing project demands and customer requirements • Collates and clearly documents architectural proposals that include an assessment of strategic fit, risks, impacts and delivery recommendations. Ensures proposals are up-to-date over the lifetime of the product • Involved in selecting small scale technology solutions and products that may cause impact on larger scale solutions across Government bodies and have dependencies on them • Able to lead small-scale value-for-money solutions and technical proposals • Good understanding of the application of industry best practices design and architecture principles and standards; e.g. GDS methods, and their impact on the creation of designs
3.	Adoption of clear and pragmatic technology principles and strategies that balance the needs of Product Owners and reflect best practices	• Contributes actively to the evolution of TfGM Design Principles • Advocates on the programming, design, architecture and service operations methods used by the Practice and in the IS Department • Reviews business roadmaps with stakeholders, identifying and analysing benefits that can be met through technology and the appropriate actions to take to realise such benefits • Ensures ongoing adherence to technical standards and practices inside TfGM
4.	Use of collaborative decision-making and	• Ensures projects are compliant with all appropriate architecture principles and ensures best-fit is applied

	governance management that ensure technology delivery continues to meet the expectations of Product and Service Owners	across all technology designs across TfGM, identifying impacts and managing design variations • Supports the Technical Design Authority processes and presents designs and decisions at project forums and steering groups for approval • Identifies and tracks technology risk / technical debt across the department, escalating issues and identifying remedial plans in conjunction with the wider department
5.	Makes a positive contribution to the Practice	• Ensures the right working environment and tools are used to ensure continued alignment within the team • Actively participates in the community and Practice to improve others' learning and standards and to develop their own capabilities • Works effectively within an agile and multi-disciplinary environment, ensuring designs are communicated to teams across TfGM for potential adoption • Challenges and improves ways of working, identifying ways of using tools, data and patterns to improve the community and Practice

Senior Technical Architect

A Senior Technical Architect is highly technically proficient in several technical disciplines and is able to bring together complex solutions that encompass all of TfGM's technology environments. They are highly proficient at bringing together teams of architects and SME specialists to create complex designs and solutions that meet customer requirements. They provide architectural knowledge and capabilities to others and are regarded as a point of guidance for other architects and SME's. They have the ability to translate solutions to a wide range of stakeholders in a manner that ensures the key elements are well understood.

1.	Delivery of high-quality solutions for TfGM customers and staff that meet identified business goals	• Provides leadership and management in projects and operates as a project/initiatives governance design authority and decision point • Advises projects on technology and solution trade-offs to ensure delivery progress and best practices delivery and design suitability • Able to translate complex and multi-disciplinary cross-business requirements into IT solutions and migration roadmaps • Leads in the adaptation of designs to changing business and technology environment requirements across the lifetime of a delivery and in-life services • Leads in the prioritisation, planning and scoping of work around architectural decision-making • Develops services and products that are of the highest

		possible standards and are well allied with delivery team requirements
2.	Fit-for-purpose technology designs and decisions that meet project requirements and core TfGM design principles	• Assess and communicate the value of the architectures and ensure understanding across TfGM • Designs solutions that are fit-for-purpose and follow TfGM best practices and acts as a reviewer and mentor for solutions designed by more junior SMEs and Practice members • Acts as the leader in value assessments for technical proposals and manages complex technical interdependencies within projects • Collates and clearly documents complex architectural proposals that include an assessment of strategic fit, risks, impacts and delivery recommendations. Ensures proposals are up-to-date over the lifetime of the product • Delivers a deep understanding of the application of industry best practices design and architecture principles and standards; e.g. GDS methods, and their impact on the creation of designs
3.	Adoption of clear and pragmatic technology principles and strategies that balance the needs of Product Owners and reflect best practices	• Lead on the evolution of TfGM's Design Principles and methodologies, liaising with other internal and external 3rd-party organisations as appropriate • Challenges and advises on programming, design and architecture methods to be used • Reviews business roadmaps with stakeholders, identifying and recommending the benefits that can be met through technology solutions
4.	Use of collaborative decision-making and governance management that ensure technology delivery continues to meet the expectations of Product and Service Owners	• Ensures projects are compliant with all appropriate architecture principles and ensures best-fit is applied across all technology designs across TfGM, identifying impacts and managing design variations • Owns, develops and maintains technical roadmaps for specific business domains, managing levels of technology risk / technical debt in conjunction with project and delivery teams
5.	Makes a positive contribution to the Design Practice	• Actively contribute to the formation and evolution of the Practice, coaching and guiding more junior members, as deemed appropriate • Works to ensure the Practice has the appropriate working environment, procedures and tools needed to deliver effective design artefacts • Outside of their immediate Practice responsibilities, coaches others; including, peers and senior managers in design practices

		• Challenges and improves the design methods used across the organisation, ensuring adoption of design methods and works to build confidence amongst stakeholders • Defines standards and best practice methods that underpin the design community

Lead Technical Architect

A Lead Technical Architect is highly technically proficient in several technical disciplines and is able to bring together complex solutions that encompass all of TfGM's technology environments. They are regarded as a leader and are highly proficient at bringing together teams of architects, SMEs and business product owners to create complex designs and solutions that meet customer requirements. They provide architectural direction and knowledge to others and are regarded as the governance and escalation point for other architects and SME's. They have the ability to translate solutions to a wide range of stakeholders in a manner that ensures the key elements are well understood.

1.	Delivery of high-quality solutions for TfGM customers and staff that meet identified business goals	• Delivers leadership for teams in making appropriate design decisions in projects, acting as an escalation and governance point for technology decision-making • Leads the design of complex technical solutions in a Platform or Business area and/or for a product or service • Actively reviews and challenges technology solutions and designs for products and processes so that they deliver the best possible outcomes for TfGM and its customers • Translates complex business requirements into IT solutions, investment models and migration roadmaps and strategies • Takes a leadership role in determining technology strategy across the IS Department with senior IS stakeholders • Actively works to adapt designs to changing business and technology environment requirements across the lifetime of a delivery and in-life services • Clearly defines 'as-is' and 'to-be' data architectures and is able to communicate complex architecture and design journeys to stakeholders, product owners and the business • Assesses and communicates the value of architectures to appropriate TfGM audiences • Leads in the prioritisation, planning and scoping of work around architectural decision-making
2.	Fit-for-purpose technology designs and decisions that meet project requirements	• Maintains TfGM technology policies and codes of practice, owning them for the architecture practice • Leads the definition of the TfGM reference architecture

	and core TfGM design principles	model • Operates as the leader in value assessments and value for money assessments of architectural and delivery proposals and manages complex technical interdependencies within a project • Deep understanding of the application of industry best practices design and architecture principles and standards; e.g. GDS methods, and their impact on the creation of designs
3.	Adoption of clear and pragmatic technology principles and strategies that balance the needs of Product Owners and reflect best practices	• Works to establish and maintain consistent architectures across all parts of the TfGM technology environment • Maintains and communicates medium-term technology roadmaps in use across IS, agreeing them with senior stakeholders across the department
4.	Use of collaborative decision-making and governance management that ensure technology delivery continues to meet the expectations of Product and Service Owners	• Operates as a leader and manager to design authorities and in governance forums • Ensures projects and programmes are compliant with strategy and architecture principles and roadmaps • Leads on the resolution of critical and complex, cross-project, design matters with stakeholders also acting as an escalation point
5.	Provides leadership to the Practice	• Develops the Practice capability by developing a high performing team, shaping careers paths and owning the recruitment of talent into the team • Leads the Practice, learning, sharing and reapplying skills and knowledge and developing good practices as a design principle • Contributes to, and influences, organisational transformation helping to continually improve the quality and operation of technology services • Responsible for coordinating all aspects of technology governance and audit across the Practice • Responsible for setting and ensuring the effective application of standards and best practice methods employed by the Practice
	Compulsory Outputs (COs) *these set out what must be achieved for the post holder to be successful in the role*	**Key Actions** *These set out how the COs will be achieved – the activities required.*
C1	Ensure you comply with all applicable organisational legislation and policy:	• TfGM Safety Management System (In particular section SMS 201 Roles and Responsibilities) • PCI DSS standards, policies and procedures • Bus Operator contractual management

		• Dignity at Work policy; • Information assurance and security in line with Cabinet Office requirements; • Risk management • TfGM policies and procedures • Equality and diversity legislation • TfGM Vision & Values • Act in accordance with TfGM's behaviours and competencies • IS Operations policies and procedures • IS Security Policies and Procedures
C2	Any other reasonable duties as required	The post holder is representative of IS and is expected to: • Conduct themselves in a professional manner and with due courtesy at all times. • Be flexible within the workplace and adapt to meet the requirements of service, specifically within this role, by providing cover for extended service hours.

Key Interdependencies		
Key Contacts	• Partners and suppliers • People within the IS Department • Practice Leads within IS Department • Heads of Practice within IS Department • Product Owners and "Heads of" across the business	
Direct reports	Technical Architect None Senior Technical Architect TAs Lead Technical Architect TAs and Senior TAs	
Budgetary responsibility	None	
Location	TfGM, 2 Piccadilly Place, Piccadilly, Manchester, M1 3BG	

Office Use Only	**Updated**	**Updated**	**Updated**	**Updated**	**Updated**
Created					
By: Simon Mather Nov 2018					

Person Specification

ROLE: Technical Architect		*(Knowledge, skills and experience required at selection stage)*
Essential Experience		
E		
Technical Architect	**Senior Technical Architect**	**Lead Technical Architect**

	Technical Architect	Senior Technical Architect	Lead Technical Architect
E1	TECHNOLOGY DELIVERY EXPERTISE • Able to provide architecture guidance to others • Has exposure to IT design, architecture principles and techniques and their practical application • Able to balance priorities and ensure that design milestones are met • Experience of reviewing and assuring technical work done by suppliers, ensuring design adherence, identifying and managing deviations	TECHNOLOGY DELIVERY EXPERTISE • Significant proficiency in one design area and good experience across the full technology scope of the practice • Recognised as a subject matter expert in their field and experienced at driving technology change • Experience of collaborating with suppliers to ensure the successful provision of strategic and fit for purpose solutions	TECHNOLOGY DELIVERY EXPERTISE • Proficient in a wide range of technologies, technology selection, design approaches, and delivery solutions • Demonstrable proficiency in delivering a broad range of technology solutions • Experience managing multi-disciplinary teams to develop and deliver solutions • Identifies innovation opportunities available through the supplier ecosystem, working with them to ensure value add and continuing strategic fit
E2	ARCHITECTURAL ANALYSIS • Has worked in IT in a complex, multi supplier environment and demonstrates ability to translate solutions into	ARCHITECTURAL ANALYSIS • Experience of architecture and design and their application in a complex business environment with ability to translate technical	ARCHITECTURAL ANALYSIS • Has a clear understanding of the role of IS communities of practice in relation to architecture and design • Has delivered future designs

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	business products and/or services • Able to develop solutions that match business requirements	concepts into business terms • Deep experience aligning business requirements with design and managing stakeholder buy-in	and transformation into complex environments • Proven ability assuring and managing complex supplier proposals • Experience of driving innovation • Experience of a complex business environment
E3	BEST PRACTICE DESIGN • Small scale usage of models to achieve business outcomes • Proven ability to undertake business analysis and provide high level design proposals • Knowledge of external design approaches and applicability to design and the pursuit of best practices	BEST PRACTICE DESIGN • Experience in developing architecture and strategies in a multi supplier environment • Deep knowledge of industry best practices approaches and methodologies; in particular GDS service design and TOGAF	BEST PRACTICE DESIGN • Proven experience in developing large scale and standards compliant designs in a complex, multi supplier environment • Deep knowledge of industry best practices approaches; e.g. GDS service design and TOGAF
E4	COLLABORATION AND GOVERNANCE • Familiar with architecture governance and capable of inputting into forums • Experience as an Agile team member in a Technical Architect, BA, Dev or technical role	COLLABORATION AND GOVERNANCE • Ability to work independently and also to manage and coach less experienced Architects and Engineers • Capable of managing technology governance processes within the IS	COLLABORATION AND GOVERNANCE • Able to recruit and lead Architects within the Practice • Can translate and clearly communicate solutions to business stakeholders • Has set up and facilitated effective and pragmatic

		• An ability to manage and prioritise workload across teams • Provides support and guidance to less senior members of staff	design authorities and governance mechanisms • Experience of working at a senior level in a large complex organisation	

Additional experience required for specialists in "Application Design"

| E5 | APPLICATION DESIGN
• Solid understanding of Programming, Analysis or Operations across BPM, Service Oriented Architecture (SOA), Middleware or Web technologies
• Working knowledge of database design and tuning
• Strong skills in .Net or J2EE including C#, JSON, web services, JavaScript, data access components, XML and SQL
• Understands NFRs and experienced in designing solutions appropriately
• Able to design solutions that meet DPA, GDPR and IT Security needs
• Good analytical and problem- | APPLICATION DESIGN
• Has defined strategies and roadmaps for middleware and complex integration systems
• Developed and defined high volume and bulk integration and deployment patterns in a complex environment
• Significant experience of designing scalable solutions to meet challenging NFRs
• Experience in DPA, GDPR, integration and end-user security (SAML, OAuth2, OpenID, ADFS)
• Excellent analytical and problem-solving skills with the ability to see beyond the obvious, and the ability to break down complex | APPLICATION DESIGN
• Has a broad IT experience within depth understanding of application design & development, tooling, methods, integration, infrastructure, data and security
• Background as a very senior developer/ architect with a wide range of programming, design and architecture experience
• Experience of agreeing and assuring the use of standards and patterns as part of supplier engagements
• Experience of defining and steering viable security architecture strategy and solutions, and developed | |

solving skills, able to break down problems into manageable components deliverable by a multi-disciplinary team	problems into manageable subcomponents • Proven experience in designing, documenting and implementing solutions that have applied best practice design patterns and industry standards • Has managed the consistency of designs that cross multiple business domains	security architectures • Seen as the authority on the effective use of SaaS, PaaS and IaaS platforms

Additional experience required for specialists in "Network and Infrastructure Design"

E5	NETWORKS AND INFRASTRUCTURE DESIGN • Good understanding of network protocols • Understands software defined networking and/or server virtualization • Has a good grounding in the use of Firewalls and Load Balancers with a focus on Cisco products and services • Understands server virtualization and cloud offerings (AWS and Azure) • Able to design networks and data centre environments	NETWORKS AND INFRASTRUCTURE DESIGN • Experience of working with major technology suppliers; ideally including Cisco, HP, and BT • Experience designing telephony solutions, physical and cloud based • Experience of mobile and wireless network design • Expert in designing solutions with monitoring, security, intrusion prevention and SIEM • Knowledge of 3rd-party	NETWORKS AND INFRASTRUCTURE DESIGN • Significant knowledge of products and suppliers in the physical and cloud infrastructure space • Experience of significant datacenter design and virtualization initiatives • Seen as the authority on the effective operation of physical and cloud infrastructure services • Significant knowledge of 3rd-party service provision and outsourcing services

		service provision and outsourcing services	

Additional experience required for specialists in "Interchange Design"			
E5	INTERCHANGE AND PUBLIC TRANSPORT FACILITY DESIGN • Experience of identifying requirements associated with the deployment of technology in a public environment (Health & Safety, Water Resistance, Network Attenuation) • Experience of designing the physical deployment of technology within public facilities	INTERCHANGE AND PUBLIC TRANSPORT FACILITY DESIGN • Able to set standards for the physical deployment of technology in public environments • Creates re-usable patterns and templates that improve the efficiency of the design process • Experience of assuring the work done by suppliers and in-house teams relating to the deployment of technology	INTERCHANGE AND PUBLIC TRANSPORT FACILITY DESIGN • Seen as the authority on the effective design of technology for use in public settings • Able to provide effective leadership for multi-disciplinary teams responsible for the deployment of technology in public settings	

D	**Desirable Experience – SFIA version 6**		
	Technical Architect	**Senior Technical Architect**	**Lead Technical Architect**
D1			
D2	IT Governance – level 5	IT Governance – level 5	IT Governance – level 6
D3	Methods and Tools – level 5	Methods and Tools – level 5	Methods and Tools – level 6
D4	Research - level 4	Research - level 5	Research - level 6
D5	Solution Architecture – level 5	Solution Architecture – level 6	Solution Architecture – level 6
D6	Enterprise & Business Architecture – level 5	Enterprise & Business Architecture – level 5	Enterprise & Business Architecture – level 7

D7		Consultancy – level 5	Consultancy – level 6	
EQ	**Essential Qualifications – Technical, Vocational or educational:**			
EQ1	GCSEs or an equivalent			
EQ2	Relevant high-level qualification in specific field of technical expertise			
DQ	**Desirable Qualifications – Technical, Vocational or educational:**			
DQ1	A degree or equivalent industry experience			
DQ2	Solution Architecture certifications on Amazon AWS or Azure			
DQ3	Red Hat, Oracle or Microsoft certifications			
DQ4	Network certification in relevant technology manufacturer(s)			
DQ5	TOGAF, Zachman, BSI or Open Group certifications			
DQ6	Agile / Scrum certified			
EA	**Essential Attributes:**			
EA1	**RELIABLE** by doing what we say we will do			
EA2	**HONEST** in our communications and our feedback			
EA3	**RESPECTFUL** in how we behave			
EA4	**REWARDING** by recognising a job well done			
EA5	**EMPOWERING** by enabling potential to be realised			
DA	**Desirable Attributes:**			