

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Code No. 100548
Grade 34**

ENTERPRISE TECHNOLOGY EXPERT

DEFINITION OF CLASS:

The Enterprise Technology Expert serves as expert and innovator in information technology (IT) in multiple technologies/domains or multiple major enterprise systems or modules; provides technical leadership in enterprise IT initiatives, which have critical impact on the utility, effectiveness, efficiency and cost or value of County business processes/operations.

This class is based on possession and use of expert-level knowledge of, and skills in, one or more of the following: network architecture/ engineering, enterprise architecture, software architecture/ development, Internet architecture, enterprise level database management, enterprise systems interoperability / integration, information security. In addition to technical expertise, the work typically requires knowledge of the business processes/operations supported to provide an IT solution that is responsive to business needs, and collaboration with business subject matter leads and IT functional business analysts. The work often addresses a business need or desire to move to or integrate with emerging technologies or platforms, such as cloud services, mobile services or social media applications. Regularly recurring business contacts include IT technical experts and specialists, technology users at all levels, manufacturers/ vendors, and other subject matter experts. Business contacts are primarily to coordinate IT solutions to business process or enterprise system problems, and through innovation create opportunities to implement new, cutting edge applications. Little or no one-to-one assistance is provided directly to the public.

The employee reports to a Department of Technology Services (DTS) manager in the Management Leadership Service. Most work flows directly to the employee consistent with recognized expertise and assigned area(s) of technical responsibility, program leadership, project leadership or customer service. The employee is able to supervise staff in project settings. Special assignments are typically made in terms of objectives, resources, timelines, authority and similar factors, or are self-generated based on expertise and innovation. The employee is responsible for planning and performing work independently. At this level of innovation, technical assistance is normally sought only in unusual circumstances and is typically obtainable only from vendors, manufacturers and industry experts. Work products are considered technically authoritative and are expected to be implementation-ready without significant change. Recommendations, at times, extend to introduction of major, new IT solutions that transcend IT platforms or fuse technologies or strongly affect major business program areas or departments/agencies. The employee uses mature professional and expert level technical judgment in selecting and applying or adapting and creating technical guidelines to specific problems and individual cases and to identify IT solutions in support of the IT vision and strategy of the County that reflect enlightened total cost of ownership (TCO) and effective return on investment (ROI) analyses. Complexity is characterized by broad and deep analysis of non-standard or unusually difficult variables that tend to be interdependent, they regularly include IT variables in more than one technical domain, and they may transcend business programs or departments, and there is significant interaction between IT variables and also business process

variables. Work products include creative IT solutions, at times incorporating the highest state-of-the-art and enhanced approaches to enterprise architecture, such as fusing distinctly different architectures to produce cutting edge applications, and affect both small- and large-scale enterprise system life cycles. Work is primarily sedentary, performed in an office setting and presents no significant hazards. The employee uses computer equipment on an ongoing basis; however, use of this equipment is not production-oriented.

EXAMPLES OF DUTIES: (Illustrative Only)

- Serves as technical expert and internal consultant in design, development, operation, and troubleshooting network architecture / engineering, enterprise architecture, software architecture / development, database architecture and design, and uses skills in technologies / domains such as: information lifecycle management, business intelligence, identity management, server administration, network administration, enterprise applications development, enterprise database administration, web-based and mobile computing, virtualization, information security, and wired and wireless networking.
- Applies technical expertise to reduce or control costs, expand utility, improve interoperability, enhance the user experience or otherwise add value while ensuring high system availability, performance, scalability and security and anticipating the evolution of future architectures and technologies. Examples: Information Lifecycle Management (ILM) to manage the flow of data from creation and initial storage through obsolescence and deletion, anticipating and preparing to accommodate future needs; digital identity management, authentication and authorization systems for ensuring identity, controlling access, providing security and protecting privacy; technology infrastructure virtualization, including network, storage, server and work station virtualization; and service Oriented Architecture (SOA) for improved integration and interoperability of applications and services in the enterprise and in the cloud.
- Works closely with key personnel in IT and business operations in support of, and as a full partner with, all of the County departments supported and other stakeholders, such as not-for-profit partners, public interest groups, citizen groups and manufacturers/vendors.
- Conducts needs analyses, TCO analyses and ROI analyses, considering such factors as acquisition cost, operations-maintenance costs, configurability, scalability, maintainability, functionality, upgradability, availability, reliability, sustainability and security to attain business needs.
- Recommends and uses service level agreements (SLAs), key performance indicators (KPIs), etc. Ensures that technical changes are documented and improvements are made in associated policies, processes and operations, and ensures information flow to keep all parties duly informed and able to service internal and external customers proactively as well as reactively.
- Stays abreast of technical developments in IT, including advances in infrastructure, systems analysis and benchmarking and of regulatory requirements affecting IT, including such matters as accessibility, security and privacy.
- Coordinates implementation of new technical architectures and solutions, and ensures proper integration into ongoing operations.
- Leads technical teams in researching, learning, and deploying new technologies. Plans and manages large-scale IT projects, through the system development lifecycle. Leads team members. Estimates project cost and assures project practicality, quality and timelines. Leads enterprise system configuration and maintenance including cloning, patching, performance tuning, diagnosis and troubleshooting.

- Works with experts in the industry and vendor community to identify state of the art IT solutions, which may include emerging technology.
- Provides expert advice and direction in the design, implementation, security and evaluation of systems organization and integrity.
- Links distinct systems to unify and simplify such automated processes as assignment of access rights, roles and responsibilities. Fuses distinctly different technologies to produce unique mobile applications that incorporate information from enterprise systems.
- Coordinates with business owners and functional team personnel to design, test, evaluate and implement major subsystems and key system components; translates functional design into technical design, develops or specifies code, performs or assists in unit testing, system testing, user acceptance testing and other testing, develops reports, documents work and maintains configuration control of code through use of specialized software; and creates and maintains other forms of documentation.
- Develops technical aspects of signature-ready recommendations for adjusting policies and projects to achieve target business outcomes that capitalize on relevant business issues and support the evolution of future state enterprise architecture.
- Provides expert advice and assistance in integrating new technology into existing systems, in modifying existing technology to meet current demands, in Internet transaction of government business, in mobile web page development, design and optimization, and mobile web-based applications, or in information security architectures, protocols and standards to assure implementation of secure IT solutions.
- Performs related duties as required or as deemed necessary.

KNOWLEDGE, SKILLS AND ABILITIES:

- Expert level knowledge of, and skill in, network architecture / engineering, enterprise architecture, software architecture / development, enterprise database management to lead technically in ensuring high availability, scalability, performance and security of critical systems, to identify or create and exploit opportunities to extend or transform uses of IT in County Government, to proactively and holistically analyze and facilitate execution of change toward the County's IT vision, and to perform related functions.
- Considerable knowledge of, and skill in, another IT domain/specialty, such as but not limited to: Information lifecycle management (ILM) including use of enterprise and cloud (public and private) storage systems and data modeling, to manage the flow of data from creation and initial storage through obsolescence and deletion, to reduce or control costs, expand utility, improve interoperability, enhance the user experience or otherwise add value while ensuring high availability, performance, scalability and security, and to perform related functions; Business intelligence management and Big Data analytics methods, processes, architectures and systems, such as the Oracle Business Intelligence Suite Enterprise Edition (OBIEE), to transform raw data into meaningful information (reports, analytics, dashboards and other forms of business intelligence that provide historic, current and predictive views of business operations) for tactical and strategic business decision support (to reduce or control costs, improve operational effectiveness or efficiency while expanding County services, enhancing the customer/resident experience, etc.), and to perform related functions; digital identity management authentication and authorization systems to ensure identify, control access, provide security and protect privacy, while reducing or controlling costs, expanding utility, improving interoperability, enhancing the user experience or otherwise adding value, and to perform related functions; server analysis and administration,

including hardware, operating systems and utilities, to plan/develop server infrastructure (including deployment of new technologies) and manage daily server operations to ensure high availability, scalability, performance and security, and to perform related functions. This includes knowledge of, and skill in, server administration in Linux, MS Windows and other environments, and knowledge of the technical issues and impact of cloud computing (public and private) and other advances in IT that significantly impact server administration; network analysis and administration, including but not limited to connectivity, performance and security (firewalls, packet inspection, network intrusion detection, penetration testing, and incident handling and response) across both Internet and intranet networks to ensure high availability, scalability, performance and security. This includes knowledge of the technical issues and impact of cloud computing (public and private) and other advances in IT that significantly impact network administration; enterprise applications development, programming and scripting, including development, test and evaluation of major application responses to changes in operating, application or data environments (where changes are reactive as well as proactive - creation of applications for new business operations which may cross enterprise architectures); enterprise database administration to ensure database availability, integrity, redundancy, back-ups and failover, disaster recovery, troubleshooting, etc.; desktop, web-based and mobile computing architectures, technologies, tools and delivery systems to design, implement and maintain cutting edge desktop, web-based and mobile applications that reduce or control costs, expand utility, improve interoperability, enhance the user experience or otherwise add value while ensuring high availability, performance, scalability and security, and to perform related functions; technology infrastructure virtualization (including operating system, network, storage, server and workstation virtualization, for ease of administration, backups, diagnosis, correction and other purposes that reduce or control costs, expand utility, improve interoperability, enhance the user experience or otherwise add value while ensuring high availability, performance, scalability and security; information security planning and development to plan, manage and review information security program functions; and of IT security architectures, protocols and standards including ISO, FIPS, PCI, ACH, and HIPAA; wired and wireless infrastructures for voice, video and data and associated protocols and standards, such as copper and fiber optic network cabling, Ethernet, 802.11 wireless network deployments, and 800 / 700 megahertz radio systems, to advise on multiple technologies that reduce or control costs, expand utility, improve interoperability, enhance the user experience or otherwise add value while ensuring high availability, performance, scalability and security, and to perform related functions.

- Comprehensive knowledge of the principles, standards, methods and tools used in conceiving, researching, designing, developing, testing, evaluating, implementing and administering IT to lead enterprise responses in making IT systems more operationally and cost effective, and to extend the value and utility propositions. This includes skill in identifying and analyzing the execution of change in IT systems toward business vision and desired outcomes, and skill in developing technical aspects of signature-ready recommendations for adjusting policies and projects to achieve target business outcomes that capitalize on relevant business issues and support the evolution of future state enterprise architecture.
- Knowledge of IT project planning and management, such as identifying project scope, creating work breakdown structures, sequencing project activities and using various project management techniques and tools), to assure project practicality, quality and timelines.
- Knowledge of IT policy analysis, IT TCO analysis, IT ROI analysis, common IT system components and considerations (such as hardware, software, connectivity, availability, performance, scalability, security and human factors) across applicable lifecycle(s); of key Federal,

State and local laws, regulations and standards governing IT services (such as accessibility, security and privacy); of generally-accepted IT standards, protocols and practices (such as back-ups, redundancies and disaster preparedness and recovery); of other requirements, standards and practices (including 'best practices').

- Knowledge of industry trends and emerging technology, altogether to serve as an internal consultant and IT subject matter expert on a wide range of IT issues and help ensure (as a key member or leader of an IT technical team) cost effectiveness, operational effectiveness and legal/regulatory compliance of IT solutions at the enterprise level.
- Skill in developing technical specifications for solicitations and evaluation of proposals for enterprise systems, solutions and architectures.
- Skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes the ability to recognize subtle aspects of problems and identify relevant information.
- Skill in oral communication to understand verbal information (including facts, assertions and arguments) and to express such information verbally so that others will understand and, at times, be convinced or persuaded.
- Skill in written communication to understand written information, draw inferences, form hypotheses and develop logical arguments, and to express such information in writing so that others will understand and, at times, be convinced or persuaded.
- Interpersonal skills to interact with others in a businesslike, customer service-oriented manner. Skill in using a computer for communication, planning, scheduling, word processing, presentations and other modern office suite applications in addition to the core IT work of the job. Skill in working as a team member and ability and willingness to lead a team to provide important work products and excellent customer service.
- Ability to quickly synthesize and apply new technologies and to learn and adapt to new IT products.
- Skills in critical thinking, technical writing and presentations.

MINIMUM QUALIFICATIONS:

Experience: Eight (8) years of professional experience in IT in analysis and technical leadership at the enterprise level in at least one of the following: architecture, applications development, server administration, network administration, database management, virtualization, and web and mobile technologies. These 8 years must include four (4) years demonstrated experience of expert-level knowledge and skill in one or more of these specialties.

Education: Graduation from an accredited college or university with a Master's degree that provided a strong foundation in the field of assignment. Specific certifications may be required depending on the essential functions of the position of assignment.

Equivalency: An equivalent combination of education, experience and training may be substituted, provided there is evidence of attainment of expert-level knowledge and skill in at least one specialty.

LICENSE: None.

PROBATIONARY PERIOD:

Individuals appointed or promoted to non-bargaining unit positions in this class will be required to serve a probationary period of twelve (12) months if appointed and six (6) months if promoted, during which time performance will be carefully evaluated. Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL EXAM PROTOCOL: Medical History Review with a Urine Drug Screen.

Class Established: December, 2013
October, 2014