State of Iowa-IT Services-Position Descriptions

Levels of Experience

The following levels of experience apply to all job categories unless a job category details other requirements (example Data Entry). In all cases, except where otherwise noted, staff must have at least four year college degree or equivalent technical study.

Level One: 1-3 years of experience, relies on instructions and pre-established guidelines to perform the functions of the job and works under immediate supervision. Primary job functions do not typically require exercising independent judgment, typically reports to a project leader or manager.

Level Two: 4-7 years of experience, relies on experience and judgment to plan and accomplish goals, performs a variety of complicated tasks, may lead and direct the work of others, may report directly to a project lead or manager, a wide degree of creativity and latitude is expected.

Level Three: 8 to 10 years of experience. Relies on experience and judgment to plan and accomplish goals, performs a variety of complicated tasks, may lead and direct the work of others, may report directly to a project lead or manager, a wide degree of creativity and latitude is expected.

Level Four: 11 or more years of experience. These consultants are recognized as top professionals in their chosen field and may be considered "Guru" subject-matter experts in IT Professional Services. Individuals possess multiple years experience and are extremely competent and will typically hold advanced education degrees or certifications such as a Microsoft Certified Programmer Certified Business Analyst Professional (CBAP) or Project Manager Professional (PMP). *These advanced degrees and certifications may substitute, at the sole discretion of the State, for experience at this skill set level, and for this skill set level only. They have worked on multiple critical projects; have demonstrated the judgment to plan and accomplish goals; perform a variety of complicated tasks, and may lead and direct the work of others. This expert may report directly to Director or CIO level management; a wide degree of creativity and latitude is expected.

Applications Architect	**Levels 1, 2, 3**
The Applications Architect is the functional expert for an application, a defined set of applications or a portfolio of related applications. The Applications Architect is also responsible for bringing an understanding of the enterprise, business system and industry to the team(s) supporting or interfacing with the application. The primary responsibility of a Applications Architect is to provide expertise in the business process supported by the application, to prepare and review designs, to recommend improvements, and to provide guidance during the testing process. The Applications Architect helps the Programmers establish a clear understanding of the business functional requirements and either creates the functional designs to meet the requirements or reviews and approves the designs written by the Programmers. The Applications Architect must understand all aspects of their specific application(s), and the underlying business process. The more experienced Applications Architect plans, analyzes, and defines high- level software strategies and solutions. Contained in the experienced role is the task of coordinating with other Applications Architects to define technical requirements and long range plans for meeting customer requirements. Must complete assigned task; communicate accurate and useful status updates; follow quality standards; Ability to work in a team environment; strong communication skills; both written and spoken.	

Business Analyst	**Levels 1, 2, 3, 4, 5, 6**
Additional Details for Business Analyst 5 and 6	Senior Business Analyst with specific government application experience. Other skills for the Business Analyst 6 (Strategic Business Analyst) is listed below.
Plans, develops, tests and documents computer programs, applying knowledge of programming techniques and computer systems: Evaluates user request for new or modified program. Reviews, analyzes, and	

evaluates business systems and user needs. Formulates systems to parallel overall business strategies. Leads analysis and solution definition. Understands the business issues and data challenges of the organization. Identifies organization's strengths and weaknesses and suggests areas of improvement. Reviews and edits requirements, specifications, business processes and recommendations related to proposed solution. Develops functional and non-functional specifications, uses cases and system design specifications for systems. Conducts effective joint applications development and brainstorming sessions. Interviews and surveys subject matter experts and stakeholders to gather requirements. Understands the agile development and the universal modeling language.

Business Analyst Level 6 is a Strategic Business Analyst skilled at consulting with executive-level stakeholders to define business need or problem. Conducts research, performs studies and surveys to obtain data; and analyzes problems to advise on or recommend solutions, utilizing knowledge of theory, principles, or technology of specific discipline or field of specialization. Analyzes data to determine solution, such as installation of alternate methods and procedures, changes in processing methods and practices, modification of machines or equipment, or redesign of products or services. Advises client or department heads on alternate methods of solving need or problem, or recommends specific solution. Requires experience providing consulting services to governmental entities. May be designated according to field of business and technical specialization.

CADD/GIS Administrator	**Levels 1, 2, 3**
The CADD/GIS Administrator (CGA) is responsible for providing direct support of various CADD/GIS software and hardware systems. The CGA will perform hardware and software installations, relocations, testing and routine maintenance. Assist in troubleshooting CADD/GIS system hardware problems and work with the appropriate service and warranty vendors to make the necessary repairs and fixes. Track version upgrades and notify proper parties of available updates to CADD/GIS Systems software. Maintains current inventory of all hardware, software, upgrades and fixes for each site. Maintains data backups and data archives and provide data retrieval from backup. Monitors system status and data integrity.	

CADD/GIS Technician	**1+ years relevant experience; AA or BA in GIS, Geography, Engineering, Computer Science, or a related field**
The GIS/CAD technician is responsible for spatial data entry using desktop GIS or CAD systems. Must have strong computer skills and database skills are desirable. Primary responsibilities include spatial data acquisition, editing and transformation and map production. Must have strong math skills to perform calculations using algebra, geometry and trigonometry.	

Database Administrator	**Levels 1, 2, 3, 4, 5, 6**
Additional Details for DBA 5	**This senior level database administrator may work with more than one database architecture or have deep knowledge in a specific application database or set of databases to support architectural or decision support activities.**
Additional Details for DBA 6	**Database Administrator may also have experience as an architect, modeler or warehouse design for decision support.**
The Database Administrator (DBA) is responsible for data analysis and database management. DBA's typically are involved in maintenance, enhancement, designing of data dictionaries, physical and logical database models, and performance tuning. DBA's have a range of skills and knowledge of the utilities and	

production tools used for data storage management to support the Application Team. DBA's must be able to work in a team environment, follow quality standards and have strong written and verbal communication skills.

DBA's Coordinate physical changes to computer data bases; and codes, tests, and implements physical data base, applying knowledge of data base management system: Designs logical and physical data bases reviews description of changes to data base design to understand how changes to be made affect physical data base (how data is stored in terms of physical characteristics, such as location, amount of space, and access method). Establishes physical data base parameters. Codes data base descriptions and specifies identifiers of data base to data base management system or directs others in coding data base descriptions. Calculates optimum values for data base parameters, such as amount of computer memory to be used by data base, following manuals and using calculator. Specifies user access level for each segment of one or more data items, such as insert, replace, retrieve, or delete data. Specifies which users can access data bases and what data can be accessed by user. Estimates time and cost required to accomplish project. Directs programmers and analysts to make changes to data base management system. Reviews and corrects programs. Answers user questions. Confers with coworkers to determine impact of data base changes on other systems and staff cost for making changes to data base. Modifies data base programs to increase processing performance, referred to as performance tuning. Workers typically specialize in one or more types of data base management systems. May train users.

Help Desk Support	**Levels 1, 2, 3**
Additional Details for HDS1 (Phone)	**1 to 3 years field experience and preferred education of 2 year associates degree or equivalent technical study**
Additional Details for HDS2	**1 to 3 years field experience and preferred education of 2 year associates degree or equivalent technical study**
Additional Details for HDS3 (Desktop Advanced)	**3 to 5 years field experience and preferred education: 4 year college degree in field of specialty or equivalent education and experience combined.**
The Help Desk Support provides technical assistance support and advice to end users for hardware, software and systems. Depending on the level the Help Desk Support staff will provide phone support for activites like password resets or in person hands-on technical assistance to business and technical users. Calls software and hardware vendors to request service regarding defective products. Talks to programmers to explain software errors or to recommend changes to programs. Talks with technical and non-technical co-workers to research problem and find solution. Calls software and hardware vendors to request service regarding defective products. Develops end user instructions Examples could be: How to manage your popup blocker or How to add a printer. Follow quality standards, and displays strong customer service skills; Ability to work in a team environment; Complete assigned tasks; Strong communication skills; both written and spoken. Train users on software and hardware on-site	

Infrastructure Architect	**Levels 1, 2, 3**
Analyzes user requirements, technical specifications and existing technical architecture designs to develop and oversee implementation of architecture for Infrastructures: Confers with technical experts involved to analyze current technical architecture, identify problems, and learn specific technical requirements. Writes detailed description of requirements, systems interactions and interdependencies, and project plans required to deploy chosen design. Reviews computer system capabilities, hardware, and software to	

determine if requested are possible within existing system, designs changes based on existing infrastructure in order to meet requirements. Analyzes networking and computing hardware and software capabilities and makes recommendations for required components to best deliver services. Prepares workflow charts and diagrams to specify in detail operations to be performed by equipment and computer programs and operations to be performed by systems. Conducts studies pertaining to development of new information systems to meet current and projected needs. Plans and prepares technical reports, memoranda, and instructional manuals as documentation of program development.

Network Analyst	**Levels 1, 2, 3, 4**
Reviews, plans, and evaluates network systems. May troubleshoot network systems and recommend improvements to network. Provides documentation/project tracking and management reporting. Provides tactical and strategic input on overall network planning and related projects.	

Network Engineer	**Levels 1, 2, 3, 4**
Network Engineer is responsible for the design, implementation and overall performance, security and availability of the entire LAN/WAN/MAN for enterprises designing network topology between sites such as data centers, field offices and DR sites. Extensive technical product experience in network security controls. Experience in developing enterprise networks and security design architecture in a multiple site environment. Provides consultation to business area management and staff at the highest technical level for all aspects of LAN/WAN design and configuration in multi-server environment. Demonstrated knowledge of systems, networks and applications, Microsoft networking concepts, back office products.	

Project Manager	**Levels 1, 2, 3**
Designs, plans, and coordinates work teams. Provides technical support to project team members. Handles complex application features and technical designs. Designs and implements the components required for complex application features. Generally manages a group of applications systems analysts. Relies on experience and judgment to plan and accomplish goals. Typically reports to a senior manager.	

Quality Assurance/Tester	**Levels 1, 2, 3**
Additional Details AQ/Tester 1	**1 to 2 years relevant experience; preferred education 4 year college degree or equivalent technical study**
Additional Details QA/Tester 2	**3 to 4 years relevant experience; preferred education 4 year college degree or equivalent technical study**
Additional Details for QA/Tester 3	**4 plus years of experience; preferred education 4 year college degree or equivalent technical study**
The Quality Assurance Specialist (QAS)/Tester is responsible for the design, pilot, and implementation of the software quality assurance review processes. The QAS/Tester Specialist will work with Application Teams during pre and post assessment periods. The QAS/Tester Specialist reports to the Quality Assurance Team Lead. For each phase end review the Quality Assurance Specialist/Tester is responsible to plan, schedule, execute, and document findings of the review. Quality Assurance Specialist/Testers must have a detailed understanding of processes which support the software development lifecycle. The Quality Assurance/Test Lead is responsible for communicating with the State regarding the progress of the quality approach and a summary of the metrics, as well as managing the Quality Assurance Specialist/Testers. The QAS/Tester is a member of a team which plans, constructs, and executes product tests, system tests,	

unit tests, load tests, volume tests, network tests as well as works with others for release control processes. The more experienced QAS/Tester manages, plans, constructs, and executes tests and integrates with release control process.

The QAS/Tester will create test models for product test and release control (plans, data, and scripts);conduct structured walk-throughs; execute assembly or product tests; meet time estimates for assigned tasks; communicate accurate and useful status updates; follow quality standards; ability to work in a team environment; complete assigned tasks; strong communication skills; both written and spoken.

Systems Architect	**Up to 5 years experience and a 4 year college degree**
SeniorSystems Architect	**5 years experience and 4 year college degree**

The Systems Architect and Senior Systems Architect has experience in software development, testing and project management. Responsible for designing, developing and implementing application infrastructure to provide highly-complex, reliable, and a scalable applications and systems to meet the organization's objectives and requirements. Architects are familiar with a variety of the application technologies, environments, concepts, methodologies, practices and procedures and rely on experience and judgment to plan and accomplish goals, Architects are able to perform a variety of complicated tasks with minimal supervision. They have proven experience defining systems and application architecture and provide vision, problem anticipation and problem solving ability to organizations.

The Senior Systems Architect will consult with the client to define needs or problems, conduct research, perform studies and surveys to obtain data, and analyze problems to advise on or recommend solutions, utilizing knowledge of theory, principles, or technology of specific discipline or field of specialization.

Additionally the Senior Architect should have the ability to:

- Manage, organize, and administer systems analysis and preparation of applications and operating systems programming to process data and solve problems by use of computers.
- Establish priorities and schedules, and oversees and reviews work of systems analysis personnel and programming personnel.
- Review feasibility studies and time and cost estimates of new or revised systems.
- Assist in the development of standards, procedures, and operating systems applications.
- Work with stakeholders and management to ensure projects are completed on time and according to organization standards.
- Participate in developing a project plan and schedule with key milestones, contingency plans, workflow charts or diagrams, considering factors, such as resource requirements, computer storage capacity and speed, extent of peripheral equipment, and intended use of output data.
- Manage conversion of workflow charts to language that can be processed by computer and entering of program codes and test data into computer.
- Analyze test runs on computer and supervises correction of coded program and input data.
- Manage the revision of existing programs to increase operating efficiency or adapt to new requirements.
- Compile documentation of program development and subsequent revisions.
- Train subordinates in systems analysis, feasibility studies, programming, and program coding.

Software Developer/Programmer	**Levels 1, 2, 3, 4, 5**
Additional Details for Software Developer/Programmer Level 5	**Senior Developer/Programmer experienced with a government specific application or development design pattern.**

Converts data from project specifications and statements of problems and procedures to create or modify

computer programs: Prepares, or receives from systems analyst detailed workflow chart and diagram to illustrate sequence of steps that program must follow and to describe input, output, and logical operations involved. Analyzes workflow chart and diagram, applying knowledge of computer capabilities, subject matter, and symbolic logic. Confers with supervisor and representatives of departments concerned with program to resolve questions of program intent, data input, output requirements, and inclusion of internal checks and controls. Converts detailed logical flow chart to language processed by computer. Enters program codes into computer system. Inputs test data into computer. Observes computer monitor screen to interpret program operating codes. Corrects program errors, using methods such as modifying program or altering sequence of program steps. Writes instructions to guide operating personnel during installation and maintenance of the application. May work with business analyst to obtain and analyze project specifications and flow charts. May direct and coordinate work of others to write, test, and modify computer programs. Most frequently requested programmer skills include C#, Java, PHP and IDMS. The State will indicate specific development skills required with each posting. For example: the State may specify a Software Developer/Programmer 3 with GIS skills and experience with industry standard or open source Geospatial software APIs or SDKs.

Storage Administrator	**Levels 1, 2, 3, 4**
Manages storage systems and associated backup systems and devices. Manages centralized, complex and heterogeneous storage environments, and ensures high availability and reliable access to data. Establishes storage for newly installed applications or for the migration from other storage systems. Reviews log files to identify capacity and backup errors. Provides information to end users on capacity and availability. Conducts compatibility tests with vendor-provided programs. Requires knowledge and experience in the deployment of commonly used network connectivity schemas used to connect devices requiring storage to the storage mechanism. Recovers data when lost due to failure of hardware component or other error. Conducts capacity planning reviews and implements additional storage based on pre-established solutions in order to ensure the availability of additional capacity when needed.	

Systems Administrator	**Levels 1, 2, 3, 4**
The System Administrator is responsible for server back up and security, along with performance tuning and capacity planning. Familiarity with most basic system administrator tools and process; for example, can boot/shutdown a machine, add and remove user accounts, use back up programs, and maintain system database files. Responsible for operating and other system software; responsible for upgrading the operating and system software and keeping patches current. The System Administrator should be able to do minimal debugging and modification of programs, execute the disaster recovery/back up procedures and archiving procedures. The System Administrator should be able to maintain file and print capacity. System Administrators should possess an understanding of network and distributed computing concepts. This is accomplished by working with the Systems Management Team Lead to understand the scope of services to be provided and assessing the impact they will have on the technical infrastructure. Systems Administrator must have the ability to work in a team environment, complete assigned tasks and have strong communication skills; both written and spoken.	

Systems Security Analyst	**Levels 1, 2, 3, 4**
Understanding of all aspects of computer and network security, including such areas as firewall administration, encryption technologies and network protocols. Strong oral and written communication, analytical and problem-solving skills as well as excellent judgment and self-motivation. Able to multitask and work well under pressure. Knowledgeable of industry security trends and developments as well as applicable government regulations. Perform security audits, risk assessments and analysis. Make recommendations for enhancing data systems security. Formulates security policies and procedures. Research attempted breaches of data security and rectifying security weaknesses.	

Trainer/ Technical Writer	Levels 1, 2
The Trainer/Technical Writer develops and maintains user and technical documentation and project process documentation for Application Teams. Technical Writer understands the user's view of applications and /or technology and is able to put procedures in a logical sequence. The experienced Trainer/Technical Writer provides expertise on technical concepts of applications and /or user groups and structuring procedures in a logical sequence, due to a broad understanding of the applications. The Trainer/Technical Writer ensures messages and terminology is consistent across all written materials. Identify, create, revise, and maintain documentation and templates needed by the Application Teams. Trainer/Technical Writer must be able to work in a team environment and have strong communication skills both written and spoken.	

Voice/Data Engineer	Levels 1, 2, 3
Additional Details for VDE 1	**1-2 years of experience; 4 year college degree or equivalent technical study**
Additional Details for VDE 2	**3 to 5 years of experience; 4 year college degree or equivalent technical study**
Additional Details for VDE 3	**5 plus years of experience; 4 year college degree or equivalent technical study**
The Voice/Data Engineer (VDE) directs and participates in all activities related to the selection and installation of telephone facilities and special on-premises equipment that will meet the customer's communication requirements. The Voice/Data Engineer is responsible for all technology and connectivity involving telecommunications and data networks. The Voice/Data Engineer will typically specialize in telephony and data interfaces and systems that have proprietary functions within the communications area of a corporation/business. General wiring excluded, the Voice/Data Engineer ensures that any specialized conduit or wiring is properly deployed and installed according to code. The Voice/Data Engineer is also an expert in audio/visual, teleconferencing, and voice mail equipment. Often times, the Voice/Data Engineer is specialized or is certified in a particular piece of equipment. VDE must have experience with CAT5, Romex, and similar cables/wiring. The Voice/Data Engineer configures and installs hardware, wiring, and specialized equipment according to local building and electrical codes. The VDE may also be responsible for the end-to-end installation of cable, wiring, and related equipment. The VDE typically works closely with facilities/construction managers and site-based project managers. The VDE should be able to accurately estimate the time and materials needed for tasks assigned. It is not uncommon for the Telecom Engineer to supervise a team of people and coordinate activities with other construction teams.VDE may prepare equipment floor plan for customer or architect approval.	