Systems Programmer / Specialist

DESCRIPTION OF WORK: Positions in this banded class perform specialized work in supporting information technology equipment and systems for the business, research, and instructional functions of customers. Work involves the advanced use of software and/or hardware tools to provide ongoing services. They will have an expertise with core infrastructure elements and how they interrelate to provide a cohesive computing environment. Positions install new versions of systems level software and associated programs from vendor releases. This work may be specialized as systems architecture. They must have an understanding of the configuration of the systems software, applications, and space usage to determine impacts as changes and enhancements are made. Work includes optimizing systems performance, troubleshooting systems problems, and analyzing usage and systems load issues of a highly technical nature. Work may include interaction with customers, technicians, analysts, and specialists to troubleshoot problems related to the use of single and/or multiple information systems. Work may include creation, installation, and modification of software and hardware, testing, and documentation on a variety of platforms. They may have responsibility for the final technical decision on major systems problems.

ROLE DESCRIPTIONS BY COMPETENCY LEVEL

Contributing: Positions at this level perform technical work in the development, installation, and modification of specialized and complex computer systems software. They independently monitor and fine tune systems software, debut and resolve technically complex problems, and provide planning and project management for new releases and versions of software. They provide support for a variety of software products. They monitor systems performance and reports to isolate the probable causes of the problems. They access system and subsystem data or System Management Facility (SMF) records to produce standardized reports which deal with data detailing the operating system, including I/O, network activity, software usage, error conditions and processor utilization in order to identify issues and help make recommendations for performance and availability tuning.

Journey: Positions at this level develop and implement open systems and mainframe security measures to safeguard information against unauthorized access and identify and implement security plans for hardware, software applications, data, telecommunications, and computer installations. Positions respond to mainframe security threats, advise programmers on appropriate security policies and controls, and modify and maintain complex operating systems and applications using engineering releases from the vendor or manufacturer. Positions design, configure, code, test, and debug operating systems or major applications such as hierarchical or relational data base system software, sophisticated file maintenance routines, telecommunications software, and intricate utilities related to storage methodology, printing, or related functions. Positions resolve problems related to operating systems and vendor products identified through analysis of other technical specialists. Capacity and performance specialist positions utilize environment, system & subsystem parameters, usage & runtime data from SMF, data from performance tools, history reports and application architecture to monitor the performance of the mainframe computer systems and network and review the impact of new applications on system capacity, system performance and consult with and advise agency programmers on applications design to increase performance.

Advanced: Positions at this level perform highly technical work in the development, installation, tailoring, modification and maintenance of specialized and very complex systems software. The work requires complete knowledge of systems architecture, hardware configuration and software inter-connectivity. Positions resolve the most complex and unusual problems, serve as system experts for the state and/or a very large organization and are the highest level of technical support in a highly specialized area of systems software.

Positions understand and utilize the environment's system and subsystem parameters, usage and runtime data from SMF, data from performance tools, history reports and application architecture to make detailed forecasts of system and applications growth, identify expansion or upgrades of the system and maintain technical knowledge of new devices and technological advancement to understand impact to the computer systems and forecast changes to the systems. Systems level capacity and performance specialists at this level can perform the rigorous capacity and availability analysis required to identify opportunities for workload balancing, tuning and application optimization.

EXAMPLES OF COMPETENCIES:

CONTRIBUTING:

Project Management – Ability to manage projects of medium to high complexity. Ability to develop project plan, manage milestones and drive project forward.
Planning and Organizing – Ability to assist management in establishing work standards, standard processes and references.
Technical Knowledge - Ability to modify moderately complex operating systems software. Ability to assist with design, coding and debugging.
Technical Solution Development - Ability to make recommendations for enhancements or changes to improve system performance.
Technical Support - Ability to recommend methods of resolving problems to lower level analysts or client representatives.
Consultancy Skills – Ability to provide consultation on issues and requests from clients that may require the implementation or creation of a custom solution.

JOURNEY

Project Management – Ability to manage highly complex projects including software installation and migration.
Planning and Organizing - Ability to provide regular day-to-day planning and organization of the work of others.
Technical Knowledge - Ability to modify complex operating software programming. Ability to make sophisticated modifications.
Technical Solution Development - Ability to identify trends in recurring problems and develop appropriate solution.
Technical Support - Ability to negotiate time and priorities with vendors to achieve problem resolution.
Consultancy Skills - Ability to understand the market, industry and competitors that have an impact on the customer's business.

ADVANCED

Project Management – Ability to manage projects that have high impact and/or of highest complexity, involving significant changes to infrastructure or the implementation of emerging technologies.
Planning and Organizing - Ability to provide leadership in long-term planning for the work unit.
Technical Knowledge - Ability to serve as technical resource to others in the installations, modification or enhancement of operating systems.
Technical Solution Development - Ability to serve as an expert in designing system infrastructure to solve reoccurring problems.
Technical Support - Ability to provide technical consultation on complex projects.
Consultancy Skills - Ability to provide expertise and consultation to committees and boards on a regular basis.

MINIMUM TRAINING AND EXPERIENCE: Bachelor's degree in Computer Science, Computer Engineering, or closely related degree from an appropriately accredited institution and three years of experience in operations analysis and design, systems programming, or closely related area; or a Bachelor's degree from an appropriately accredited institution and four years of experience in operations analysis and design, systems programming or closely related area; or an Associate's degree in Computer Information Technology, Computer Engineering Technology, or Networking Technology from an appropriately accredited institution and five years of experience in operations analysis and design, systems programming, or closely related area; or an equivalent combination of education and experience.

Special Note: This is a generalized representation of positions in this class and is not intended to reflect essential functions per ADA. Examples of competencies are typical of the majority of positions, but may not be applicable to all positions.