Systems Programmer Analyst I/II/III

Definition

Under direction, evaluates, configures, installs, modifies, updates, maintains, and troubleshoots computer application platforms and peripherals for system performance, reliability, and availability, and consults with departments to evaluate the need for automated technology to meet customer needs. The Systems Programmer Analyst may configure, produce, and execute system utility programs, configure and install operating system software, and configure, tune and install application software.

Distinguishing Characteristics

This position is distinguished from other programming classes by the responsibility for both systems software programming and hardware configuration and installation. Programming work within this classification is typically performed using system and application languages for system operational purposes rather than higher-level languages used to create business solutions for end-users as is more typical of work performed by a Software Programmer Analyst. The Systems Programmer Analyst may configure and install application software, however the Systems Programmer Analyst is not typically involved in the design, analysis, construction, and maintenance of application software programs and codes.

The Systems Programmer Analyst position is distinguished from the Network Systems Engineer position in that the latter is responsible for the configuration, tuning, installation, modification, update, maintenance, and troubleshooting of data networking and telecommunications equipment in the distributed computing environment such as routers, hubs, and switches. The Systems Programmer Analyst typically supports hardware platforms hosting information system business applications such as mainframe, midrange computers, servers, desktops, and laptops. However, server network administration duties regarding proprietary communications architectures may involve some overlap of duties and responsibilities.

The Systems Programmer Analyst is distinguished from the Database Administrator in that the latter is typically responsible for database design, administration, backup, and recovery while the Systems Programmer Analyst is responsible for the management of database software and physical data storage devices on application hosting platforms.

Systems Programmer Analyst I. Systems Programmer Analyst I is the entry-level into the career series. The Systems Programmer Analyst I is distinguished from the higher levels in the series by the reduced complexity and size of the systems supported and the amount of discretion exercised over technical issues, problems and resolutions. Under general supervision, incumbents apply a basic knowledge of computing system hardware, peripheral configuration, network attachment, operating system and packaged application software configuration and support. As incumbents become more knowledgeable and proficient, they are given more difficult tasks to perform independently and may assume responsibility for the system administration and support of limited function workgroup servers (i.e. file and/or print servers).

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Systems Programmer Analyst II. Systems Programmer Analyst II is the full working-level class in the career series. Positions at this level formulate recommendations consistent with established directives, policies, standards, and regulations. Under limited direction, incumbents utilize a thorough knowledge of Monterey County's application platform and system architecture and infrastructure to support a wide range of workgroup, departmental, and small to medium-sized systems, and may be responsible for integrating multiple platforms to comprise a complete application solution. Incumbents may be assigned responsibility for a major functional area of application platform software technical support (i.e. disaster recovery, job scheduling, change management, documenting, or other system software). Incumbents at this level may be involved in the creation of policy and standards and require a level of specialized technical and functional expertise beyond that expected at a lower level.

Systems Programmer Analyst III. Systems Programmer Analyst III is the highest level in the Systems Programmer Analyst career series and is responsible for technical oversight and support of major components of the County's application platform and operating system architecture having the broadest county-wide impacts. Generally, incumbents exercise greater authority over assignments and perform more independently than lower level classifications. It is distinguished from the journeyman-level by the amount of discretion exercised over technical issues. Incumbents at this level may be involved in the creation of policy and standards and require a level of specialized technical and functional expertise beyond that expected at a lower level. Typically, their duties involve the largest and most complex systems. Positions in this class function independently under broad policy guidance and are responsible for providing technical guidance to Systems Programmer Analysts in all areas of systems programming and may serve as a lead worker on a project or on an ongoing basis.

Duties Performed. The duties and responsibilities listed below are illustrative only. They are not meant to be a full and exhaustive listing of all of the duties and responsibilities of the classification.

1. Analyzes system operational requirements, (a) builds utilities, tools, and routines to meet those requirements, (b) resolves single-event issues and (c) ensures inter-product compatibility.
2. Consults with clients, other departments, departmental staff, vendors, and technical support personnel to (a) determine customer computer application platform hosting needs and functions, (b) propose application platform configurations to meet customer needs, and (c) determine operating procedures and systems design to ensure system performance meets user requirements.
3. Conducts feasibility studies, including cost benefit analyses, to determine appropriate and cost effective application hosting solutions and to assist in evaluating long-range office automation, information processing, and communications technology needs. Recommends automation hardware, peripherals, and software necessary to implement system design.
4. Prepares systems specifications and bid proposals and assist in analysis of bids.
5. Prepares and presents computer classes in a formal classroom setting.
6. Interacts with vendors, staff, and clients to clarify and resolve application technical operational and management issues/needs.

7. Installs, tests, and updates system software and departmentally developed or third-party application software products for delivery over proprietary, local, and wide area computer networks.
8. Provides technical support and expertise to evaluate and recommend resolution of difficult technical system problems.
9. Evaluates and configures systems for system performance and serviceability, reliability, availability, and performs operational requirement studies within a system environment context, and recommends enhancements or changes to the system configuration to maintain optimum system performance and utility.
10. Writes user guides, system standards, and technical system documentation.
11. May produce, test, and execute utility programs using advanced system language.
12. Plans, develops, and implements backup and recovery procedures for large complex systems which may involve multiple platforms.
13. Monitors and analyzes application platform processor and storage capacity utilization. Prepares plans and recommendations for capacity modifications to meet changing utilization trends.
14. Keeps abreast in current application platform developments, system technology, and trends.
15. Performs additional related duties as required.

Qualifications

A combination of experience, education, and training which substantially demonstrates the following knowledge and abilities:

Systems Programmer Analyst I:

Some Knowledge of:
1. Techniques and methods of systems analysis and design.
2. Computer system configuration and configuration management concepts.
3. The basic principles and techniques of computer programming and code development.
4. The basic principles and techniques of data networks and their relationship to Monterey County network operational components.
5. The principles and techniques of system administration.
6. Security methods for managing confidential data.
7. Problem diagnosis and troubleshooting techniques to evaluate system failures and prescribe corrective action; application backup and recovery concepts and methods.

Ability to:
1. Gather, organize, and evaluate complex data; draw logical conclusions and make effective recommendations.
2. Understand the impact of organizational, administrative, and personnel aspects of new information systems designs.
3. Communicate effectively both orally and in writing.
4. Establish and maintain effective working relationships.
5. Read, understand, interpret, and apply complex technical manuals, computer dumps, memory displays, charts, and graphs.
6. Follow oral and written instructions.

Systems Programmer Analyst II: In addition to the Systems Programmer Analyst I knowledge and abilities listed above:

Working Knowledge of:
1. The availability and capability of third-party systems software and utilities; installation parameters and options for typical application solution packages and their resultant impacts on overall system performance.
2. Established Monterey County information technology architecture plans and directions.

Ability to:
1. Work independently under limited supervision, exercise initiative within established procedural guidelines, and organize and prioritize work to meet established deadlines.
2. Complete studies to determine automation needs and recommend cost effective systems alternatives.

Systems Programmer Analyst III: In addition to the Systems Programmer Analyst I and II knowledge and abilities listed above:

Thorough Knowledge of:
1. The capabilities, limitations, and principles of systems and peripherals; the principles, methods, and procedures used in system capacity and performance evaluation.
2. Mathematical and statistical methods applicable to the analysis and evaluation of system performance.

Ability to:
1. Manage multi-faceted projects; plan, coordinate, and review the work of others.
2. Write clear and concise systems specifications, bid proposals, operating and training manuals, and technical standards and documentation.

Examples of Experience/Education/Training

The knowledge, skills, and abilities listed above may be acquired through various types of experiences, education, or training, typically:

Systems Programmer Analyst I:
Education and Experience: Completion of two (2) years of coursework leading to a degree in Computer Science or a closely related field with emphasis in theory and practice of using computer equipment; **OR** two (2) years experience in systems analysis, computer programming, or operations; **OR** two (2) years performing duties equivalent to an ITS Technician III, Communications Technician III, Data Center Operations Technician III, or Telecommunications Technician III in Monterey County.

Systems Programmer Analyst II:
Education and Experience: Completion of a four (4) -year degree in Computer Science or a closely related field with emphasis in theory and practice of using computer

equipment; **OR** four (4) years experience in systems analysis, computer programming, or operations.

Systems Programmer Analyst III:
Education and Experience: Completion of a four (4) -year degree in Computer Science or a closely related field with emphasis in theory and practice of using computer equipment, and three (3) years of professional level computer operating systems software support experience equivalent to that of a Systems Programmer Analyst II in Monterey County. Two years of the experience must include project management and/or lead supervision; **OR** seven (7) years experience in systems analysis, computer programming, or operations.

Required Conditions of Employment

As a condition of employment, the incumbent will be required to:

1. Successfully pass a modified background investigation.
2. Possess a valid California Class "C" driver's license with a satisfactory driving record or be able to provide suitable transportation that is approved by the appointing authority.
3. Work occasional nights and weekends.

Physical and Sensory Requirements

The physical and sensory abilities required for this classification include:

1. Sight in order to read computer screens and standard computer printouts.
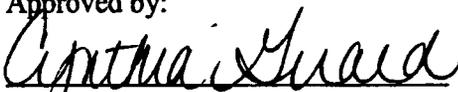2. Dexterity to operate a computer keyboard.

Class History
Class Code:
Systems Programmer Analyst I – 16C53   Bargaining Unit: J
Systems Programmer Analyst II – 16C54   EEO Category: PP/P/P
Systems Programmer Analyst III – 16C55   Work Group: 13/3/3
Established Date: April 8, 2003   Worker's Comp. Code: 8810
Revised Date: N/A
Former Title: N/A

Approved by:

Departmental Personnel Analyst   CAO/HR Senior Personnel Analyst

June 19, 2003   June 19, 2003
Date   Date

CPS Consultants: KBW
2/10/03