SYSTEMS ARCHITECT

KIND OF WORK

Advanced professional information systems design and strategic planning work.

NATURE AND PURPOSE

Under administrative direction, plans overall network structure and technologies for MNet, the state's network, or for a large state agency's information system, sets standards and guidelines for design activities, selects specific technologies to meet business needs, and guides strategic and long range planning for information systems and networks. An incumbent in this class is the chief architect for a large agency with diverse programs using multiple platforms serving a variety of users; the position is optioned by agency. Performs related work as required.

EXAMPLES OF WORK (A position may not include all the work examples given, nor does the list include all that may be assigned.)

Develop long range information architecture plans and so that customers' current and future communications requirements are met by identifying emerging technologies, identifying and recommending purchase of hardware and software, setting standards and guidelines for design and implementation activities, defining strategy for growth and development, assuring performance, reliability and security of the systems, and continually studying new trends and practices in technology.

Establish standards so that network and information technologies, structures and protocols remain reliable, available, secure and meet the needs of the customer by defining specifications and guidelines for network design and development, naming and addressing, performance evaluation, and security practices.

Develop and maintain network performance and economic models so that designers can make economic decisions on design alternatives by researching and evaluating network modeling software, selecting economic modeling software and developing economic model structures, developing modeling techniques, and organizing and running a test laboratory.

Consult with technical design and planning staff so that long range plans and strategies support the business plans and technology strategies meet the customer needs timely by meeting and conferring with management and major customers to identify business requirements, developing and customizing training programs for staff, interacting with external industrial and academic organizations to maintain state-of-the-art knowledge of emerging technologies.

KNOWLEDGE, SKILLS AND ABILITIES REQUIRED

Knowledge of:

Advanced knowledge of computer science and information technology architecture theory and practice sufficient to provide technical leadership to technical professionals, to lead design and development of effective and reliable statewide integrated systems.

Network technologies including operating systems, management systems, communication protocols, topologies, media, capacity planning, transmission protocols and access technologies sufficient to understand philosophies and applications, interoperabilities, and evaluate functions, and recommend usage.

Standards and conventions such as ISO and ANSI sufficient to apply and include them in design and development and to participate in national discussion of additions or changes to current standards.

Advanced knowledge of computer hardware, communications network hardware and end user equipment functions and operation including routers, bridges, controllers, modems, multiplexers, packet switches and PADS sufficient to plan needs and usage effectively, assess technical problems and recommend effective corrections.

Skill in:

Verbal and written communication sufficient to meet with technical and business management to identify and understand needs and processes, to identify and discuss theoretical aspects of technologies and determine strategies, to document design strategies and define standards, to prepare reports and explain strategic thinking and modeling.

Administrative function sufficient to lead project work groups of technical and business professionals, to direct organizational change, to negotiate and administer contracts, to conduct budget and cost analysis, to manage vendor relationships.

Ability to:

Think conceptually and analytically sufficient to identify and determine future needs and visualize plans, to develop performance and analysis models, to anticipate and resolve problems in test status.

Coordinate development activities by working with application designers and database managers sufficient to ensure integrity of the designs, communications, interfaces between subsystems (on-line and batch) and supporting databases.

Est.:   11/05/93   T.C.:
Rev.:   5/05/95   Former Title(s):   Revenue Systems Architect