

STATE OF WISCONSIN
CLASSIFICATION SPECIFICATIONS

INFORMATION SYSTEMS (IS)
ENTERPRISE SYSTEMS DEVELOPMENT SERVICES CLASSIFICATIONS

I. INTRODUCTION

A. Purpose of This Classification Specification

This classification is the basic authority under Wis. Admin. Code ER 2.04 for making classification decisions relative to present and future professional positions, which are the principal authority on the applications and feasibility for employing new technology for the State of Wisconsin Enterprise. Positions perform professional duties for the majority of time related to one or more of the classifications within the IS Enterprise Systems Development Services occupational area. There are four classification levels within this one classification specification, and they are: IS Enterprise Systems Development Services Professional, Senior, Specialist and Consultant/Administrator.

Classification decisions must be based on the “best fit” of the duties within the existing classification structure. The “best fit” is determined by the majority (i.e., more than 50%) of the work assigned to and performed by the position when compared to the class concepts and definition of this specification or through other methods of position analysis. Position analysis defines the nature and character of the work through the use of any or all of the following: definition statements; listing of areas of specialization; representative examples of work performed; allocation patterns of representative positions; job evaluation guide charts, standards or factors; statements of inclusion and exclusion; licensure or certification requirements; and other such information necessary to facilitate the assignment of positions to the appropriate classification.

B. How to Use This Classification Specification

This classification specification includes professional IS Enterprise Systems Development Services positions at the Professional, Senior, Specialist and Consultant/Administrator levels, which are identified in Section II of this specification. The IS Enterprise Systems Development Services classifications includes numerous allocation patterns or job types.

Section II.A. defines the duties performed by positions appropriately included in the IS Enterprise Systems Development Services classification. Use this section to determine the correct job family classification. Then, use sections II.B. and II.C. to determine the appropriate classification level within that job family classification for the position: Professional, Senior, Specialist or Consultant/Administrator.

For classification purposes, the majority of duties assigned to a position **must** meet level **and** classification definition.

C. Inclusions

This classification encompasses only those professional positions performing Information Systems (IS) duties for the majority of time which impact on the State Enterprise. Positions in this classification are located in the State of Wisconsin, Department of Administration and perform enterprise-level IS work identified in Section II under Definitions. The Department of Administration is charged with all aspects of the operation of the state's mainframe computer utility and the network through which customer agencies access to Info Tech services. The Department of Administration provides information technology planning, development of statewide systems, and management (including identification and implementation) of standards for enterprise-wide information technology tools, products, functions and systems. These positions must meet the level definition in Section II of this specification. Positions in this classification are responsible for enterprise-wide IS services as described by the definition section.

D. Exclusions

Excluded from these classifications are the following types of positions:

1. Supervisor positions as defined in Wis. Stats. 111.81(19), and as administered and interpreted by the Wisconsin Employment Relations Commission.
2. Confidential positions as defined in Wis. Stats. 111.81(7), and as administered and interpreted by the Wisconsin Employment Relations Commission.
3. Positions which are not engaged for the majority of time in "professional employee" work as defined in Wis. Stats. 111.81(15)(a) or (b), and as administered and interpreted by Wisconsin Employment Relations Commission.
4. Positions which are not engaged in enterprise-level IS work for a majority of time.
5. Positions which are not located in the Department of Administration.
6. Clerical, paraprofessional or professional positions which utilize computer systems in a business area, specialized program or reporting area and which are concerned with the manipulation of data contained in the system, and with responsibilities including program policy development and/or implementation, inputting of data into the system, correcting or modifying data, generating program reports and statistics, evaluating the effectiveness of the system, and providing information and technical assistance to users of the program system and liaison with IS professional staff. The primary purpose of these positions and the majority of the assigned duties are not the development or maintenance of the computer system.
7. IS (IS) Technician positions which spend the majority of time (more than 50%) engaged in any combination of the following activities: operating and monitoring a computer and/or teleprocessing network; routine computer programming and debugging; controlling data by coordinating and executing computerized system production runs; operating peripheral equipment; installing, maintaining, repairing and servicing computer hardware; installing software and upgrades and assisting with troubleshooting software and hardware problems; providing routine technical assistance; performing technical related work in the day-to-day maintenance of the LAN or WAN; completing data processing production for major, complex, integrated systems; or providing first level technical problem determination and resolution, and related job duties.

8. Positions which do not perform IS work for the State of Wisconsin Enterprise.
9. All other positions which are more appropriately identified by other classification specifications.

E. Entrance Into These Classifications

Employees enter positions within this classification series by competition. Progression to the IS Enterprise Systems Development Services Senior level will occur through reclassification. A progression series means a classification grouping whereby the class specifications specifically identify an entry and full IS Systems Development Services performance senior level. The full performance senior level within a progression series means the classification level that any employee could reasonably be expected to achieve with satisfactory performance of increasingly complex duties or the attainment of specified training, education, or experience.

An employee may have his/her senior level position considered for reclassification from the IS Systems Development Services Senior classification to the IS Enterprise Systems Development Services Specialist classification. All other employees will enter positions within this classification series by competition.

A position assigned to the IS Enterprise Systems Development Services Consultant/Administrator classification is the Enterprise principal technical authority in the referenced IS area with respect to multi-agency issues and applications. When circumstances permit on a case-by-case basis, movement to the Consultant/Administrator level may also be by reclassification.

F. Definition of Information Systems Terms

To assist in the evaluation of positions for inclusion in this and other Information Systems classifications, definitions of IS related terms are provided in a document titled "Information Systems/Technology Definitions" which is incorporated herein by reference as though fully set forth. This document should be used with the classification specifications which have Information Systems and Information Technology as part of the class title.

II. DEFINITIONS

For classification purposes, a position must meet the level **and** the classification definition.

A. **IS Systems Development Services Job Family**

The Application and System Development positions are those responsible for the planning, development, implementation, upgrade, and support of software applications. Position types include application analysts, application designers, application developers, software programmers, software quality assurance staff, project managers/leaders, software tool specialists, software development methodology experts, software package technical experts, and GIS application specialists. Staff occupying positions in this family have the training and experience to serve the operational, information, knowledge, and analytical application needs of the agency business areas as well as extra-and inter-agency requirements.

Positions which spend the majority of their time (50% or more) on one or more of the following duties are appropriately included in the IS Enterprise Systems Development Services job family classifications.

1. Work with customers to assess the scope and objectives, return on investment (ROI), risk, and budget for IS application efforts.
2. Determine application feasibility from technical perspectives.
3. Develop and evaluate application alternatives that solve the needs of the business area or agency.
4. Assist with the definition of requirements and the preparation of bid documents for the acquisition of applications or application development services (e.g. contract programmers). Assist with the evaluation of responses.
5. Discover, analyze, organize and document application functional and data requirements.
6. Incorporate information security policies, principles and practices in application requirements.
7. Design user interfaces for applications.
8. Model and document objects, data and processes related to application development.
9. Design software components and develop application prototypes.
10. Build and debug software components using a variety of programming languages, professional tools, and integrated development environments.
11. Follow software development life cycle methodologies and practices.
12. Develop scripts to execute software components in batch mode.
13. Document applications for various audiences, including other IS developers, operations staff, data and network administrators, application users, and application trainers.
14. Develop software testing plans and conduct software tests from components to entire systems.
15. Create and/or modify software and application designs to improve performance, security, and reliability of applications when in use.
16. Develop technical knowledge about the software and data structures delivered with purchased applications.
17. Customize purchased applications to provide functionally not originally provided by the package vendor.
18. Plan, monitor, and control the IS project budget and work activities on projects for the development of applications or the acquisition and installation of purchased applications.
19. Develop one-time and reusable applications to report and summarize application data.
20. Develop procedures and application code to integrate two or more applications.
21. Develop and implement procedures to manage software repositories with consistency and quality.
22. Design, develop, and implement application architectures, which define the interrelations between individual applications and the infrastructure that supports them.
23. Assist with training on agency applications for business area experts and program area liaisons, helping the business side understand applications and set training priorities.
24. Study, develop, recommend, and support application development tools, standards, policies and procedures, and methodologies.
25. Provide requirements for the selection of useful development tools.
26. Design and develop applications using GIS data.
27. Estimate the costs of application -related work on IS projects.
28. Troubleshoot, identify, and resolve production and development application problems. Patch applications when necessary.
29. Study the impact of proposed business changes on the business-area applications.
30. Lead teams of application professionals, determine resources and skill needs, and assign tasks.

31. Participate in statewide planning for application technology.
32. Assess and report status of application projects.
33. Analyze technical strengths and weaknesses of applications that are in use and those under consideration for purchase.
34. Facilitate application requirements gathering sessions.
35. Plan and test upgrades to purchased software.
36. Develop data extracts to populate other data access sources (like data warehouses and datamarts).
37. Develop data extracts and data conversion routines to transmit data to outside parties and other application systems.
38. Interface with managers and management teams presenting information about new or changed applications, potential new business opportunities in technical advances, and impacts on business rules.

Positions appropriately classified in the IS Enterprise Systems Development Services job family classifications may perform some of the following duties, but would not spend the majority of their time on one or more of these duties:

1. Use applications to enter or retrieve information for the business area or agency.
2. Provide information and requirements for the application.
3. Establish valid data values and valid business rules for applications.
4. Test applications as a representative of the business area or agency to determine that business requirements are met.
5. Approve the application's readiness for production use.
6. Resolve business and policy issues related to the development and implementation of applications.
7. Use existing application data structures and reporting tools to answer business questions.
8. Act as an application owner by approving requests for access to the application and its data, defining application usage policies and roles, identifying applications quality issues, requesting application enhancements, prioritizing work requests for IS application projects.
9. Review and approve feasibility studies, risk assessments, impact assessments, technical specifications and designs as a representative of the business area or agency.
10. Use "off-the-shelf" applications and/or non-professional development tools to manage data used in one's own job or business area.
11. Audit applications and their use to uncover possible fraud and security breaches.
12. Perform data and database administration
13. Install, support and administer networks and servers.
14. Administer security
15. Perform data Center operation
16. Provide general help on the use of computing services, tools, and applications.
17. Install and support hardware, operating systems, and infrastructure needed to develop or run applications.
18. Install software

B. Level

IS ENTERPRISE PROFESSIONAL

This classification is used as an entry progressing to a development level for professional IS Enterprise positions. Work is performed under close progressing to limited supervision. Although this is the entry-developmental level for this series, knowledge of fundamental IS

concepts, principles and practices must have been acquired before appointment into this classification; the focus is on learning the procedures, practices, techniques and technology for the assigned specialized area; and assignments are narrow in scope. As the employee progresses, s/he continues to develop knowledge of the specialized area and the associated IS concepts, principles, practices, and techniques.

IS ENTERPRISE SENIOR

Positions at this level work under general supervision. The technical work performed by a position at this level may be reviewed by the position's assigned supervisor for agreement with agency established technical direction, policies and standards. This is the full performance level, and it is this level that an employee in the series can reasonably expect to attain. An employee at this level has acquired a broad knowledge of general IS concepts, principles, practices and techniques **and** broad knowledge of the job family and classification to which the position is assigned. Positions at this level may lead positions at the Professional and Senior level in the completion of projects and work assignments. Positions at this level may support the activities of IS (Enterprise) Specialists, Consultant/Administrators and may work under the day-to-day direction of IS (Enterprise) Specialists, Consultant/Administrators.

IS ENTERPRISE SPECIALIST

Positions at this advanced level work under general review with objectives and priorities established by overall work unit directives. There is little review of technical recommendations and solutions by a supervisor. Positions at this level will implement technical policies, standards and procedures, which impact on the enterprise IS functions. The employee possesses and applies extensive, comprehensive knowledge of IS architectures as well as IS concepts, principles and practices as applied in the specialized enterprise functional area. The employee independently resolves conflicts and problems through the application of general policies and IS policies and standards. The majority of work assignments are difficult and complex and focus on IS as defined under the definition section for the technical services job family. Positions in this classification **must** interact with multiple agency and/or campus business managers and IS customers as well as other professional IS managers and staff in the completion of assigned duties.

IS ENTERPRISE CONSULTANT/ADMINISTRATOR

Positions at this level work under broad policy guidance derived from the management policy on Information Technology. Positions at this level coordinate and develop standards for the enterprise technologies to achieve the goals of this guidance. A position covered by this specification is the Enterprise principal technical authority in the referenced IS area with respect to multi-agency issues and applications. Work performed by a position in one of the classifications must focus, for a majority of the time, on the IS area of expertise. Technical review is based on effectiveness in planning, implementing, and supporting multi-agency technologies. A position at this level must provide direction, guidance and consultation on IS technical issues specific to the area of Expertise to multi-agency teams which may be at all position levels. Actions by a position at this level result in the establishment of technical policies, parameters and standards pursuant to the management policy on Information Technology. Positions covered by this specification must provide direction on issues which have impact and implications statewide. Positions at this level will lead and coordinate studies, projects and advisory groups, which span multiple agencies and/or campuses.

IS ENTERPRISE SYSTEMS DEVELOPMENT SERVICES PROFESSIONAL

This classification is used as an entry progressing to a development level for professional IS Enterprise Systems Development Services positions. Work is performed under close progressing to limited supervision. Positions in this classification perform professional IS work which supports the overall development, implementation, testing and maintenance of applications. Systems Development Services provided covers a variety of systems including Geographic Information Systems (GIS). For a majority of the time, positions in this classification perform work related to one or more of the phases in the Systems Development Life Cycle. Positions spend the majority of their time performing any combination of the following duties:

- Primarily responsible for coding computer programs in computer language/s for IS applications from detailed specifications.
- Design user interfaces (screens, windows, reports, etc.).
- Prepare documentation.
- Prepare test data and test programs.
- Participate in systems development analysis and design phases
- Participate in proposing design and system alternatives in response to customer requests.
- Analyze business requirements for the development and/or enhancement of computer programs.
- Participate in proposing alternates in response to customer requests.
- Provide regular project status reports to customer.

IS ENTERPRISE SYSTEMS DEVELOPMENT SERVICES SENIOR

Positions in this classification perform professional IS Enterprise work which supports the overall development, implementation, testing and maintenance of applications. Systems Development Services cover a variety of systems including Geographic Information Systems (GIS). For a majority of the time, positions in this classification perform work related to one or more of the phases in the Systems Development Life Cycle. Senior level positions spend the majority of their time performing any combination of the following duties:

- Analyze business requirements for the development and/or enhancement of automated systems.
- Develop and code complex programs.
- Positions may receive guidance from an IS Specialist, Project Leader Specialist, IS Consultant, Project Manager, or IS Supervisor.
- Prepare detailed program specifications for systems.
- Work with customers to define and develop applications to support business processes.
- Perform detailed feasibility studies.
- Propose design and system alternatives in response to customer requests.
- Prepare program specifications for systems.
- Develop system test plans.
- Coordinate system testing.
- Complete systems cost/benefit analysis for management.
- Coordinate systems installation.
- Conduct data analysis, including spatial data.
- Conduct integration tasks, including spatial data.

- Lead intra-agency development projects or portions of a development project.
- Prepare project plans.
- Oversee team assignments.
- Assist IS Systems Development Services Specialists and/or Consultants with their responsibilities.

IS ENTERPRISE SYSTEMS DEVELOPMENT SERVICES SPECIALIST

Positions in this classification perform advanced, professional IS work which supports the development of enterprise information systems. For a majority of the time positions in this classification perform work related to the analysis and design of applications. Positions in this classification adapt and use various techniques, and system development tools and methodologies to perform tasks in the normal course of their job duties. The incumbent **must** possess detailed knowledge of at least one project management software package and be able to use project management tools to design, manage and monitor projects through all phases of the system development life cycle. Individuals in this classification must use a variety of information engineering tools and techniques to optimize and measure performance of technical teams engaged in completion of technical tasks relating to enterprise IS projects. Work performed supports more than one phase in the Systems Development Life Cycle. This classification includes the following representative positions or job types:

IS Enterprise Business Process Specialist - Positions perform detailed technical analysis and design; conduct feasibility studies for specialized, business-related, complex automated enterprise application systems. This position will be responsible for developing specifications, test conditions and will be required to monitor and troubleshoot the developed systems until stable production status is reached. Positions may perform data modeling as part of the development process and/or lead business process redefinition studies as assigned.

IS Enterprise Development Specialist - Positions ensure systems tools and methodologies are consistent with enterprise technical policies and standards; provide training in appropriate systems development techniques and methodologies to IS Specialists and other IS staff as needed; and coordinate the development for IS customers on an enterprise-wide basis.

IS Enterprise Project Leader Specialist - Positions perform highly advanced IS work on major administrative applications (e.g. State Accounting, State Personnel/Payroll, State Procurement), with highly complex subsystems, with immediate impact or potential impact on all state agencies, boards, institutions, or campuses; lead large enterprise projects with statewide impact, or multiple phases of major enterprise projects with statewide impact; lead the planning, analysis, design, engineering, implementation, and problem resolution of applications software across multiple platforms for statewide administrative systems; lead task activities of project team members, including agency staff, consultants and contract staff, staff on loan from other agencies, members of associated inter-agency task forces, and other internal and external participants; and provide technical and practical expertise and consulting to project teams on technical areas required for highly complex major statewide IS projects (e.g. client server architectures, LAN-based development, database/data communications technologies, systems development (productivity) tools, multi-platform interfaces, graphical user interfaces, imaging, application package installation, process re-engineering).

IS ENTERPRISE SYSTEMS DEVELOPMENT SERVICES CONSULTANT/ADMINISTRATOR

Positions in this classification perform the most advanced and expert professional IS work which supports enterprise-wide and multi-agency development of applications for systems. For a majority of the time positions in this classification perform work related to the direction of the analysis and design of applications for multiple agencies and for enterprise-wide use. Work performed impacts all phases in the Systems Development Life Cycle. This classification includes the following representative positions or job types:

IS Enterprise Applications Technology Consultant - Positions are the enterprise principal authority on the applications and feasibility for employing new technology into enterprise systems development projects, e.g. Geographic Information Systems (GIS), Imaging, Interactive Voice Response; develop technical policies, procedures and standards for using new technology in the enterprise; and direct the design of prototypes and the provision of consultation to other professional IS development staff on appropriate applications of the new technology.

IS Enterprise Business Process Consultant - Positions direct the detailed analysis of complex business process redefinition (reengineering) projects for enterprise-wide business; define the scope of enterprise business process redefinition (reengineering) projects; and review current policies and procedures. Positions are the primary authority on the most feasible solution for customers and professional IS staff. Positions perform or direct feasibility studies and needs analyses for specialized, business process redefinition of complex enterprise automated systems.

IS Enterprise Development Consultant - Positions define, research and select the tools, techniques, standards and methodologies to be used in enterprise application development activities, and are the primary authority for application tools and methodologies in the enterprise and provide direction and training to other professional IS staff in the use of development tools, techniques, metrics, standards and methodologies. The incumbent must be able to specify requirements and select tools, techniques, metrics and methodologies on a project by project basis, if necessary.

III. QUALIFICATIONS

The qualifications required for these positions will be determined at the time of recruitment. Such determinations will be made based on an analysis of the goals and worker activities performed by an identification of the education, training, work or other life experience which would provide reasonable assurance that the knowledge and skills required upon appointment have been acquired.

IV. ADMINISTRATIVE INFORMATION

These classifications were created as a result of the Information Systems Survey and the abolishing of the Management Information Specialist 1 through 7 series. The classifications created more accurately represent the actual duties of the positions in the survey. The IS classifications were collapsed effective December 31, 2000 and announced in Bulletin CLR/SC-124.

This classification was modified effective June 28, 2015 and announced in Bulletin OSER-0396-CC/SC to to update the definition language and add the Professional and Senior levels.

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