

Effective Date: December 31, 2000

STATE OF WISCONSIN  
CLASSIFICATION SPECIFICATION

INFORMATION SYSTEMS  
DATA SERVICES CLASSIFICATIONS

I. INTRODUCTION

A. Purpose of This Classification Specification

This classification specification is the basic authority under Wis. Admin. Code ER 2.04 for making classification decisions relative to present and future positions, which perform professional Information Systems (IS) Data Services duties for the majority of time. There are four classification levels within this one classification specification, and they are: IS Data 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 Data Services positions at the Professional, Senior, Specialist, and Consultant/Administrator classification levels, as defined in Section II of this specification. The IS Data Services classifications include numerous allocation patterns or job types.

If a majority of a position’s time is identified in any one of the individual classification definitions, then the position must be classified in that particular classification. Positions which spend no more than 50% of their time on duties in any other single professional IS Data Services, IS Network Services, IS Systems Development Services, IS Technical Services, or IS Business Automation classification, and more than 50% of their time on a combination of duties from two or more of these IS classifications, should be classified in one of the IS Comprehensive Services classifications.

Section II.A. defines duties performed by positions appropriately included in this job family. 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 specification encompasses those professional IS Data Services positions located within State of Wisconsin agencies, District or Regional Offices of agencies, Boards and Institutions and University of Wisconsin Campuses. Positions in this classification series are responsible for IS Data Services as defined by the level, job group, and classification definition.

D. Exclusions

Excluded from this series 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. 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 the Wisconsin Employment Relations Commission.
3. Positions which do not spend the majority of their time (50% or more) performing duties identified in the IS Professional and Senior classification definitions.
4. 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.
5. 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.
6. Positions engaged in DOA enterprise level IS work for the majority of the time.
7. All other positions which are more appropriately identified by other classification specifications.

E. Entrance Into and Progression Through This Series

Employees enter positions within this classification series by competition. Progression to the IS Data Services Senior level will occur through reclassification. A progression series means a classification grouping whereby the class specifications specifically identify an entry and full

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 Data Services Senior classification to the IS Data Services Specialist classification. All other employees will enter positions within this classification series by competition.

A position assigned to the IS Data Services Consultant/Administrator classification is the principal technical authority for an agency or campus in the assigned IS area. Employees will enter IS Data Services Consultant/Administrator positions by competition. When circumstances permit on a case-by-case basis, an employee may enter a position in the IS Data Services Consultant/Administrator classification 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 or Information Technology as part of the class title.

## II. DEFINITIONS

A. Identifying the Correct Job Family Classification

This section defines duties performed by positions appropriately included in this job family. No specific definitions are provided for the IS Comprehensive Services classifications because these positions spend no more than 50% of their time on duties in any other single professional IS Data, IS Network Services, IS Systems Development Services, IS Technical Services, or IS Business Automation classification, and more than 50% of their time on a combination of duties from two or more of these IS classifications.

### **Data Job Family**

The Data Job Family covers those positions responsible for the planning, development, implementation, and administration of systems for the acquisition, storage and retrieval of data. Position types include data professionals, database administrators, database developers, data architects and administrators, data warehouse specialists, storage professionals and GIS data managers. Staff occupying positions in this family have the experience to serve the data technology needs of the agency business areas as well 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 Data Services job family classifications:**

1. Discover, analyze, organize and document business data requirements.
2. Design, develop, install, implement, tune, plan capacity, and recover databases.

3. Design and implement data inventory and documentation approaches.
4. Install, upgrade and maintain database management systems software. Database systems software problem identification, diagnosis and correction.
5. Provide technical support of data modeling tools, data design tools, GIS software, data dictionaries, repositories, data warehouse extract/transform/load tools, data reporting tools.
6. Participate in the planning, drafting, and creation of data related policy, standards, guidelines, manuals and procedures.
7. Develop and implement procedures to manage information with consistency and quality.
8. Design, develop, populate, maintain, plan capacity for, tune and otherwise administer data warehouses, reporting data structures, and/or data marts with optimal performance goals.
9. Analyze, design, implement, and support data architectures.
10. Design training materials and teach others to use data analysis, design, and management techniques and tools.
11. Study and provide recommendations on new database, data modeling, metadata repository, ETL, reporting, or other data management tools, procedures, and methodologies.
12. Conduct complex analysis and display of data in a geographic dimension.
13. Develop and manage standard geographically-based datasets for use by others.
14. Support GIS work of others through training, material development, consultation and research.
15. Research, select, support and oversee the installation of GIS software.
16. Design and implement techniques to use databases as an integration point between applications.
17. Develop and monitor compliance with policies and procedures controlling integrity of and access to data.
18. Assess security risks of networks and applications.
19. Develop and implement educational programs about security.
20. Participate in network and system design to ensure security.
21. Perform disk management for the installation and configuration of database management system software – e.g., analyze and determine location of system executables, redo logs, archive logs, system data files, application data files and index files.
22. Perform database object administration – e.g., create database instances, tablespaces, tables, indexes, and views.
23. Perform database security administration – e.g., Create users, roles and profiles. Control and monitor user access to databases.

**Positions appropriately classified in the IS Data Services job family classifications may perform some of the following duties, but would not spend the majority of their time on these duties:**

1. Use data models or data documentation tools to access information about data.
2. Use existing data structures and reporting tools to answer business questions.
3. Analyze data using business analysis and basic GIS software.
4. Participate in building or review of data models as a business representative.
5. Act as a data steward/custodian by granting access to data, defining data, identifying and resolving data quality issues.
6. Provide business requirements for the application development process.
7. Use data policy, standards, guidelines, or procedures in the development of software applications.
8. Use data warehouses, data marts, or other reporting data structures for reporting purposes.
9. Adhere to data-related standards, policies and procedures.

**B. Levels****IS PROFESSIONAL**

This classification is used as an entry progressing to a development level for professional IS 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 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 the agency's or campus' established technical direction, policies and standards. This is the full performance level, and it is the level that an employee in this 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 Specialists, Consultants, and/or Administrators and may work under the day-to-day direction of IS Specialists, Consultants, and/or Administrators.

**IS 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 assist Information Systems Consultants/Administrators and management by implementing technical policies, standards and procedures which impact on agency/campus IS functions. The employee possesses and applies comprehensive knowledge of agencywide/campuswide IS architectures as well as IS concepts, principles and practices in the specialized functional area. The position independently resolves conflicts and problems through the skilled application of theoretical and practical knowledge of the specialized area as well as the application of general policies and agencywide/campuswide IS policies and standards. Work assignments are difficult and complex and focus on IS as defined under the Classification Definitions section of this specification. Positions at this level interact with agency or campus business managers and IS customers as well as other professional IS managers and staff in the completion of assigned duties.

**IS CONSULTANT/ADMINISTRATOR**

A position at this level works under broad policy guidance and is regarded as an agency's or the campus' technical expert in this classification. A position covered by this specification is considered the definitive technical authority in the referenced IS area for the assigned agency or campus. Work performed by a position in one of these classifications must focus, for a majority of the time, on the IS area of expertise and will perform the most advanced level of work which requires the application of a combination of the highest levels of theoretical and practical

knowledge in the specialized IS classification. Technical review is based on the effectiveness of the problem resolution and consultation provided. A position at this level provides direction, guidance and consultation on IS technical issues specific to the area of expertise to the agency's or campus' administrators, business managers, IS managers, IS specialist and professional positions. Actions by a position at this level result in establishing technical policies, parameters and standards on an agencywide or campuswide basis for the identified classification. Positions at this level will interact with IS staff in other agencies and/or campuses. Positions covered by this specification represent the agency/campus on enterprisewide committees/task forces and serve on interagency or intercampus study and/or advisory groups.

C. Classification Definitions

**IS DATA SERVICES PROFESSIONAL**

This classification is used as an entry progressing to a development level for professional IS Data Services positions. Work is performed under close progressing to limited supervision. Positions spend the majority of their time performing any combination of the following duties:

- Evaluate customer's request for data development and access.
- Determine appropriate tool for data access, within department standards.
- Train and support customers in use of data access tools.
- Analyze customer's data needs.
- Identify data entities and relationships.
- Define data elements in data dictionaries in support of applications / systems development.
- Define and resolve problems with application databases.
- Use GIS database and related attribute information to compose cartographic representation of GIS data.
- Perform mapping output for customers.
- Direct the work of GIS technicians.
- Use GIS tools and languages.
- Work with geographic data.
- Analyze GIS data sources.
- Process geographic or remote sensing data into rational data structure.
- Define processing procedures for heterogeneous GIS data sets.

**IS DATA SERVICES SENIOR**

Positions in this classification perform professional IS work, for the majority of the time, related to the analysis and development of logical data relationships and/or the development and management of databases which support data collection, retention, retrieval and access. Data services provided cover a variety of data, including Geographic Information System (GIS) and Image. Senior level positions spend the majority of their time performing any combination of the following duties:

- Develop logical data modals.
- Develop and maintain databases.
- Oversees database management software.
- Analyze recommend and implement changes in physical database structure.
- Develop, design and output cartographic products for GIS data customers, including maps and map series.
- Assist Data Services Specialists and/or Consultants with their responsibilities.

This classification includes, but is not limited to, the following representative positions or job types. Positions do not need to exactly match one of these representative positions in order to be appropriately classified at this level.

### **Representative Positions**

IS Data Access Senior - Positions evaluate customers' requests for data, supply access software, install and support access software and train customers in the use of the access software.

IS Data Senior - Positions analyze customers' data needs, identify data entities and data relationships in support of data management services, develop logical data models, and define data elements in data dictionaries in support of applications and systems development.

IS Database Senior - Positions develop and maintain databases and oversee database management software. Positions analyze, recommend and implement changes in physical database structures; define and resolve problems with application databases; and work with other IS professionals and customers to answer specific database questions.

IS Geographic Cartography Senior - Positions use GIS tools to develop and design maps and map series for GIS Data customers; use spatial and tabular data structures and related attribute information to compose cartographic representation of GIS data; conduct spatial analysis of GIS cartographic data; and perform mapping output for customers. Positions may direct the work of IS Technicians and Professionals in the production of GIS cartographic results.

IS Geographic Data Senior - Positions use GIS tools and languages working with geographic data for the majority of time; examine GIS data sources and process geographic or remote sensing data into relational data structures; and define processing procedures for GIS spatial data, implement spatial data integration, and incorporate quality assurance and control techniques. Positions may direct the work of IS Technicians and Professionals in the functions of a GIS Data production environment.

### **IS DATA SERVICES SPECIALIST**

Positions in this classification perform advanced professional IS work for the majority of the time related to the management of data as a resource, data analysis and development of data models, the management of databases and use of database management software across multiple platforms and operating systems. Positions in this classification spend the majority of their time performing any combination of the following duties:

- Perform database recovery.
- Map existing data inventories to possible applications in selection processes.
- Lead utilization of data analysis and modeling and tools and techniques.
- Coordinate customer access to existing data.
- Manage data dictionaries.
- Identify and implement policies and procedures to enable user access to data.
- Identify and implement policies and procedures to meet data security requirements.
- Provide direction to IS staff and customers on the use of data access tools, databases and dictionaries.

- Analyze data requirements.
- Design and implement specialized databases.
- Detailed data analysis of existing applications.
- Implement data conversions and interfaces.
- Coordinate development of data models to ensure consistency with agency data models and policies.
- Lead implementation of data policies and procedures.
- Administer database management technologies.
- Provide training to IS staff on database management technologies.
- Review database development.
- Perform advanced technical database development, control and support.
- Tune and monitor database performance.
- Manage database consolidation, adjustment and maintenance projects, including disaster recovery.

This classification includes, but is not limited to, the following representative positions or job types. Positions do not need to exactly match one of these representative positions in order to be appropriately classified at this level.

### **Representative Positions**

IS Data Access Specialist - Positions coordinate customer access to existing data; manage data dictionaries and/or encyclopedias to support established data access policies; identify and implement policies and procedures to enable user access to data and meet data security requirements; provide direction to agency/campus IS professional staff and customers on the use of data access tools, spatial and tabular databases, and dictionaries; and analyze data requirements, design and implement specialized databases.

IS Data Planning Specialist - Positions perform, for the majority of time, detailed data analysis of existing applications, map existing data inventories to possible applications in selection processes, plan and implement conversions and interfaces on a variety of hardware and operating system platforms and across agency and application boundaries.

IS Data Specialist - Positions coordinate the development of data models across data integration projects and ensure that data entities and data relationships developed by agency/campus data professionals are consistent with agency/campus models and data policies; may lead the implementation of data policies and procedures for an agency or campus; and may train IS staff in data analysis and modeling tools and techniques. As assigned, these positions provide direction and support to agency/campus customers on data concepts including entities.

IS Database Specialist - Positions administer database management technologies, and provide direction and training to professional IS staff on database management technologies; review database development by IS Data Professionals; perform advanced technical database development, control and support duties using multiple database management technologies (e.g., database management systems, database monitoring and tuning tools, database gateways); tune and monitor the performance of database management software; coordinate with the agency/campus Data Architect/Administrator and other Data Services staff on technical policy, standards and procedures; and manage database consolidation, adjustment, and maintenance projects. Databases may include specialized data considerations such as GIS, Imaging, etc.



## **IS DATA SERVICES CONSULTANT/ADMINISTRATOR**

Positions in this classification have responsibility for the technical management, including policies and standards, which impact on the logical and/or physical aspects of the data resources for an entire agency or campus. Positions in this classification are the agency/campus expert on data analysis and modeling and data tools. The expert level IS work performed results in the establishment of technical policies, standards and guidelines, which are implemented by positions in the IS Professional and Specialist Data Services classifications. Positions spend the majority of their time performing the following duties:

- Plan and implement data recovery procedures (includes all data, GIS, relational, flat files, word doc, etc.).
- Establish and administer data policies, procedures and standards.
- Positions are definitive technical authority related to spatial and tabular data resources, methods and analysis.
- Provide expert direction to IS staff.
- Administer data models and logical data designs.
- Approves recommended data management tools.
- Administers databases and database management technology.
- Determines what and how data entities are stored.
- Approves storage structures.
- Establishes database access methodologies.
- Data services consulting responsibilities for management.
- Plans data conversions and interfaces.
- Participate in agency disaster recover planning, and implementation.

This classification includes, but is not limited to, the following representative positions or job types.

Positions do not need to exactly match one of these representative positions in order to be appropriately classified at this level.

### **Representative Positions**

IS Data Architect/Administrator - Positions establish and administer data policies, procedures and standards for the data resources of an agency/campus, including those related to data analysis, data modeling methods and techniques, and the use of data management tools. Duties at this level may encompass both the logical and physical aspects of data and databases. Positions are the agency definitive technical authority for problem resolution related to data resource management, and provides expert direction to IS Data Services Professionals and Specialists.

IS Data Consultant - Positions administer data models and logical data designs for an agency/campus, and are the agency/campus primary and definitive technical authority on decisions related to data analysis, data modeling methods and techniques and the use of data analysis and modeling tools by professional IS staff; approves recommended data management tools (e.g., dictionaries, encyclopedias); and provides direction to other IS professional staff in the use of them.

IS Database Administrator - Positions administer databases and database management technology for an agency/campus consistent with enterprisewide entity models and policies; determine what and how data entities are stored consistent with data models and logical

data designs; approve storage structures and establish overall database access methodologies; and approve recommended database management technology (e.g., database management systems, database monitoring and tuning tools, database gateways).

IS GIS Data Consultant - Positions administer data models and logical data designs for an agency/campus, and are the agency/campus primary and definitive technical authority on decisions related to spatial and tabular data analysis, data modeling methods and techniques and the use of data analysis and modeling tools, and cartographic data use by professional IS staff; approves recommended data management tools (e.g., dictionaries, encyclopedias); and provides direction to other IS professional staff in the use of them.

### **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 and 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 effective March 30, 1997 and the abolishing of the Management Information Specialist 1 through 7 series as announced in Bulletin CC/SC-64. The classifications created more accurately represent the actual duties of the positions in the survey.

The IS classifications were collapsed and semi-automatic pay progression IS classes were created effective December 31, 2000 and announced in Bulletin SC/CLR-124.

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