STATE OF WISCONSIN
CLASSIFICATION SPECIFICATIONS

INFORMATION SYSTEMS (IS)
ENTERPRISE NETWORK 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 Network Services occupational area. There are four classification levels within this one classification specification, and they are: IS Enterprise Network 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 S Enterprise Network Services positions at the Professional, Senior, Specialist and Consultant/Administrator levels, which are identified in Section II of this specification. The IS Enterprise Network Services classifications includes numerous allocation patterns or job types.

Section II.A. defines the duties performed by positions appropriately included in the IS Enterprise Network 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 Network 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 increasing 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 Enterprise Network Services Senior classification to the IS Enterprise Network Services Specialist classification. All other employees will enter positions within this classification series by competition.

A position assigned to the IS Enterprise Network 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.   **Network Services Job Family**

The Network Job Family covers those positions which plan, analyze, design, develop, test, configure, implement, integrate, maintain, and manage computer networks used for the transmission of information in voice, data, and/or video formats. The family covers all aspects of network, including file service, print service, local and Internet electronic mail networks, Internet web connectivity and mainframe gateways. Position types include network administrator, LAN/WAN administrator, server administrator, network analyst, network designer, etc. Staff occupying positions in this family have the experience to analyze, design, develop, implement, and maintain the network technology needs of the agency business areas as well extra-and inter-agency requirements.   Telecommunication system (including telephones, ISDN telephones, automated call systems, PBXs, etc.) needs analysis, design, implementation, and maintenance are included in this family. Positions can work in a specialized area(s) such as the Long Distance Voice Systems, Compressed Video Networks, Telecommunications Relay Services (TRS), Video Technology, or specific telecommunication systems such as Interactive Voice Response, Private

Branch Exchange, Centrex, and Voice Processing Services. Within their specialized area(s), positions have responsibility for advisory consultation of system policies and standards, statewide system development, contract administration, agency oversight, emerging technology and technical assistance.

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 Network Services job family classifications:

1. Design networks and telecommunications facilities (lower levels will assist).
2. Install, configure, monitor, tune and troubleshoot network and desktop operating systems, and other system (including security) software and network hardware.
3. Administer access to network and telecommunication resources.
4. Maintain and ensure availability of centralized, decentralized, and remote network services.
5. Responsible for all aspects of network, including file service, print service, local and Internet electronic mail networks, internet web connectivity, and mainframe gateways.
6. Develop policies, procedures and standards to ensure network reliability and accessibility (lower levels participate).
7. Document network and telecommunication architectures, configurations, performance, problems and assets.
8. Research, test, and make recommendations for new, emerging, and/or upgraded network and telecommunication software and hardware. Understand and resolve integration issues.
9. Plan, arrange and monitor installation and operation of communication capabilities.
10. Responsible for network capacity planning and monitoring network and telecommunication capacity, load balances and performance of servers and telecommunication devices (such as hubs, switches and routers) and make necessary adjustments to ensure adequate network performance and throughput and to minimize downtime.
11. Plan and manage changes to the network and telecommunication facilities (such as but not limited to upgrades).
12. Establish requirements and specifications for network and telecommunication hardware and software standards and acquisitions and develop bid specifications for these services and equipment.
13. Provide expert consultation and problem solving to desktop support staff, application design and development, external third parties, and end-users with respect to the impact on the network.
14. Maintain network directories and network access structures.
15. Backup and recover network servers (lower levels will assist).
16. Install, configure, and tune the network to maximize performance.
17. Establish, maintain and use remote management facilities (including software distribution, remote control, and remote inventory) for workstations and servers.
18. Internet firewalls: Specify, acquire, install, configure, monitor, and manage internet firewalls.
19. Manage internet intrusion detection.
20. Configures protocols for Wide Area Network (WAN) and/or Local Area Network (LAN) that run on network layers, such as IP, IPX, Appletalk, UDP, etc.
21. Analyze and troubleshoot network problems.
22. Investigate of new service technologies and ability to integrate with existing network systems.

23. Implement and troubleshoot remote access services, including DSL, cable, modem and wireless.
24. Configure high-end network equipment, including routers and switches.
25. Provide backbone network services to multiple departments or units.
26. Coordinate technical aspects of services between network or telecommunications service providers and institutional entities.
27. Coordinate with other government agencies to optimize use of WAN network topology.
28. Lead capacity planning process to ensure timely and cost effective advancement of Wide Area Networks (WANs).

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

1. Use hardware and software of a network to perform business functions.
2. Use hardware and software of a network to perform IT functions other than network services.
3. Develop application software.
4. Authorize access to network or network databases.
5. Use existing data structures to answer business questions.
6. Use reporting tools to answer business questions.
7. Participate in building or review of data models as a business representative.
8. Use network policy, standards, guidelines, or procedures in the day to day operations.
9. Install network or communications wiring or devices.
10. Procure any of the above items.
11. Perform low-level network troubleshooting or detection, including monitoring traffic levels or loads or equipment replacement.
12. Write or process voice or data network service orders.
13. Use network hardware or software to perform business functions or activities related to one's primary job functions.

B. Level

IS ENTERPRISE 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 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 the agency's 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, Consultant/Administrators and may work under the day-to-day direction of IS 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 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.

C.   Classification Definitions

IS ENTERPRISE NETWORK SERVICES PROFESSIONAL

This classification is used as an entry progressing to a development level for professional IS Enterprise Network 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:

- Support enterprise internet access.
- Monitor and maintain appropriate firewall security.
- Work with vendors on the installation and maintenance of network software and hardware.

- Assist with the diagnosis and resolution of problems related to internet applications and systems software and/or hardware (may include gateways, hubs, routers, servers, and bridges) and communications between connected computer platforms.
- Perform capacity monitoring with common, recognized tools.
- Assist with projects for the network and/or server configuration.
- Administer LAN security at the direction of the agency/campus Security Officer.
- Perform network configuration file backup.
- Provide access to network file services at the direction of the agency/campus Security Officer.
- Consult with end users and Help Desk Staff on LAN hardware and software changes/problem definitions.
- Support established operational Local Area Networks (LAN) and/or Wide Area Networks (WAN) or assigned aspects of established, operational mainframe networks.
- Monitor operation of the networks.
- Install and maintain LAN/WAN connectivity media.
- Support telecommunications technology and network related functions to ensure adequate telecommunications resources are available to the agency and its customers.
- Procure new telecommunications services and hardware.
- Provide problem resolution for telephone and voice mail system hardware, wireless equipment, and telephone company services.
- Implement telecommunications practices and procedures to manage customer needs.
- Use telecommunications programming techniques to configure telecommunications services.

IS ENTERPRISE NETWORK SERVICES SENIOR

Positions in this classification perform professional IS Enterprise work related to software, hardware and connectivity which supports the functions of computers in network configurations. Networking considerations addressed by positions in this classification may include assisting Network Administrators with projects for network design and maintenance, problem/change management and definitions, installation and maintenance of network and/or server software. Positions in this classification support networks and/or servers for a majority of the time. Senior level positions spend the majority of their time performing any combination of the following duties:

- Design and install agency internet access.
- Install appropriate firewall security.
- Ensure backup of files required for network configuration/recovery.
- Coordinate projects for installation and maintenance of vendor releases of network and/or server software.
- Install LAN's and/or WAN's.
- Diagnose and resolve problems related to applications and systems software and/or hardware (may include gateways, hubs, routers, switches, servers, and bridges) and communications between connected computer platforms.
- Monitor and control production systems and support equipment, activities, and performance for mainframe networks as well as perform problem determination for the network.
- Implement LAN Hardware and software changes.
- Participate in the design of LAN's and/or WAN's.
- Coordinate the use of LAN/WAN connectivity media.

- Investigate and diagnose problems related to telecommunications.
- Coordinate the installation and delivery of voice telecommunications hardware and software.
- Participate in the design of new telecommunications services and hardware.
- Install, program, and maintain telecommunications equipment.
- Assist Network Services Specialists and/or Consultants with their responsibilities.

IS ENTERPRISE NETWORK SERVICES SPECIALIST

Positions in this classification perform advanced professional IS work related to network software, hardware and connectivity which supports access to the enterprise network configuration for the State's computer utility and other government and private networks, as necessary, for the transaction of state business functions. Networking considerations addressed by positions in this classification will include coordinating network design and maintenance for the enterprise. Coordinating network problem/change management and definitions, installation and maintenance of network hardware and software changes. Positions in this classification work with and support data networks for a majority of the time. This classification includes the following representative positions or job types:

> IS Enterprise Network Specialist - Positions are responsible for developing and supporting the connection of Wide Area Networks (WAN) to the enterprise computers. Positions configure or assist the Network Administrator in the configuration of networks, coordinate the installation of networks on an enterprise-wide basis, diagnose and resolve complex problems related to enterprise computer network software and/or hardware (including gateways, controllers and routers) and communications between connected computer platforms; coordinate network monitoring and operation; develop and implement network management tools for enterprise network performance and traffic analysis; and coordinate and ensure network related maintenance by vendors.

> **OR** - Positions are responsible for all aspects of the centralized gateway support to the enterprise. Positions oversee the network configuration, monitor usage, manage security and storage capacity, ensure backup of files, provide access to files and consult on LAN hardware, software, changes/problem definitions and coordinate installation and maintenance of vendor releases of network software.

IS ENTERPRISE NETWORK SERVICES CONSULTANT/ADMINISTRATOR

Positions in this classification develop and administer the technical policies, standards and procedures which impact on all networks, network hardware, software and protocols for the enterprise. Work ensures internal and external network designs, requirements, and protocols are established and maintained. Positions in this classification ensure through planning that network capacity and flexibility support all enterprise requirements. Lead enterprise network projects and coordinate support through IS specialists or other IS consultants. This classification includes the following representative positions or job types:

> IS Enterprise Network Administrator - Positions develop and administer the technical policies, standards, designs, requirements, and procedures which impact on all voice, data, and video networks, network hardware, software and protocols for the enterprise. Work ensures internal and external network protocols are established and maintained. Positions ensure through planning that network capacity and flexibility support all

enterprise requirements. Lead enterprise network projects and coordinate support through IS specialists or other IS consultants.

IS Enterprise Network Consultant - Positions are the principal technical authority for the enterprise network and associated voice, data and video communications hardware and software, and are the key contact for resolution of questions and problems related to this environment. Positions plan, design, and implement all aspects of the network required to support the state's enterprise network; monitor and evaluate network performance and capacity; develop long range plans and objectives which must incorporate all connected agencies needs, plan for future expansion, for network hardware and software; and lead enterprise network projects and coordinate support through IS specialists or other IS consultants.

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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