



INFRASTRUCTURE ADMINISTRATOR I, II & III

BASIC FUNCTION

Under general supervision, plan, design, organize, coordinate and administer the District's technology infrastructure, communication network, data center operations and major business application systems. Serve as network and systems administrator to ensure the current systems are leveraged to provide maximum efficiency; implement, maintain, repair, install and provide overall technical support to major sections of the system infrastructure including network, telecom, server and application systems.

REPRESENTATIVE DUTIES

The classification specification does not describe all duties performed by all incumbents within the class. This summary provides examples of typical tasks performed in this classification.

- Deploy, repair, maintain, modify and upgrade variety of physical network infrastructure including, physical and virtual servers, storage networks, VOIP telecommunication networks and network ports, routers, switches and other device hardware, computer equipment, related peripheral equipment and multi-platform network operating systems or applications at multiple sites throughout the district; maintain inventory of district infrastructure and its related documentation. "E"
- Troubleshoot and support problems across all pieces of IT infrastructure by responding to outages, user problems and escalated support incidents or service requests related to district network systems infrastructure, in person, remotely and over the phone, to assure user needs are met and resolved in a timely manner; develop and document action plan for resolution, order supplies to perform required service work, participate in after-action review meetings, maintain service records and document resolution. "E"
- Monitor, improve, refine and document capabilities and procedures surrounding infrastructure including backups, system management, utilization, and security; configure data encryption and backups and restore system data when needed. "E"
- Monitor assigned infrastructure and its usage; advise management of unusual trends or problems and recommend appropriate corrective action. "E"
- Develop, assign, and monitor system security roles that control employee accounts and access to system resources; facilitate appropriate resource access level for each employee, such as telecommunication accounts, building access and system access. "E"
- Design, plan, configure, install, upgrade, maintain and administer district infrastructure systems including complex multi-platform networks, telecommunications, operating systems, deploy network based application services and related system equipment. "E"
- Diagram infrastructure services including hardware appliances, network topologies, schematics and configurations of physical servers and virtual servers; participate in capacity planning. "E"
- Design, develop, evaluate, build and test hardware and software platforms, products and patches; write, test and deploy scripts or other programming. "E"
- Design, implement and document system/network configuration and management systems including operational processes and procedures; automate and audit network and system configurations or tasks and collaborate in comprehensive infrastructure systems design. "E"
- Communicate with administrators, vendors, service providers, staff and other outside organizations to coordinate infrastructure upgrades, augmentations or repairs, schedule work, resolve issues and exchange information. "E"

- Research, evaluate and recommend IT system development, software and hardware upgrades and coordinate implementation and testing of upgrades; keep abreast of development to existing infrastructure hardware and software systems, emerging technologies, and identify industry trends in network system technologies and strategies. *“E”*
- Participate in obtaining bids and requests for proposals to assure technical requirements and standards are met; work with vendors for system support and contract renewal. *“E”*
- Plan and administer network infrastructure projects including small and large scale upgrades, augmentations or changes to IT infrastructure; create and follow change control procedures and systems, review completed work and work in progress for functionality and advise administration on status of projects and any problems impeding completion. *“E”*
- Participate in the development and implementation of methods to assure the security and integrity of privileged or sensitive data that is stored and retrieved online; create and apply digital security processes, procedures and rules, such as firewall configuration, or modify existing configurations to accomplish business or instructional requirements. *“E”*
- Participate in, lead, identify, monitor and perform support activities and services for successful completion of projects, attend various team meetings to discuss critical decisions and their impact on infrastructure and systems and advise administration on status of projects and any problems impeding completion. *“E”*
- Improve infrastructure and network/systems to support district information systems; perform routine and complex maintenance, investigate issues, determine repairs and resolve or elevate to appropriate team member or vendor to prevent and address interruption of services. *“E”*
- Plan for future deployments, augmentations and expansions and participate in the development of specifications for hardware and software upgrades; perform capacity planning for infrastructure resources to ensure networked environments meet current and future business objectives and recommend modifications to meet current users' needs. *“E”*
- Participate in, develop, prepare, issue and monitor policies, procedures, programs and standards relating to network operations, infrastructure usage, security and controls; develop user training documents and classes relating to network operations, infrastructure usage, security and controls. *“E”*
- Demonstrate a commitment to the Portland Public Schools Equity Initiative by developing a thorough knowledge and application of the district Racial Educational Equity Policy and other board policies; participate in staff development, in-services and trainings related to diversity, equity and inclusion in the workplace and in K – 12 education; model appropriate behaviors; develop, recommend and implement improvements to educational business practices with awareness and understanding of their impact in a racially and culturally diverse community. *“E”*
- Develop and maintain professional skills through ongoing training and career development, including self-study, classroom training, and industry seminars and workshops; lead, attend and participate in a variety of meetings, in-service trainings, conferences and seminars relevant to network and data systems administration. *“E”*
- Perform related duties as assigned.

Note: At the end of some of the duty statements there is an italicized “E”, which identifies essential duties required of the classification. This is strictly for use in compliance with the Americans with Disabilities Act.

DISTINGUISHING CHARACTERISTICS OF THE CLASS

All classifications in this series are responsible for assuring that the District's technology infrastructure, communications network, data center operations and major business application systems are fully supported and operational. Infrastructure Administrators may specialize in a specific infrastructure area such as networks or systems, or may work in multiple areas of IT infrastructure; all provide technical expertise and information regarding assigned functions. The levels are differentiated by the scope of work performed, the levels of complexity in troubleshooting and correcting problems, leadership over processes and input into cross-functional teams and activities related to technologies' support and functionality.

The Infrastructure Administrator I is the primary level technical classification in the classification series. Employees in this classification provide basic, routine support service to district infrastructure. Employees work under general supervision and follow defined processes to maintain infrastructure services. Employees are required to have a basic technical background and understanding of network infrastructure, programming languages and infrastructure administration and will develop overall expertise to ensure infrastructure services meet end-user needs. Upon successful completion of not less than two (2) years of active participation in infrastructure maintenance, and

experience in project development, the full scope of work involved in infrastructure upgrades, and resolving infrastructure issues, employees in this classification who have gained sufficient knowledge of the broader scope of more complex elements of the professional level, may advance, with the confirmation of duties and recommendation of department leadership, to the Infrastructure Administrator II classification.

The Infrastructure Administrator II is the professional level in the classification series. Employees in this classification work under general supervision to perform the full scope of network and system administrator duties. Employees in this classification share knowledge and expertise regarding infrastructure design and development, research and resolve failures and fixes, and participate in planning, mentoring, training and development of division staff. Upon successful completion of not less than three (3) years, employees in this classification who have gained sufficient knowledge of the broader scope of more complex elements of the professional level may advance, with the confirmation of duties and recommendation of department leadership, to the Infrastructure Administrator III classification.

The Infrastructure Administrator III is the advanced level in the classification series. The focus of this position moves beyond administration and maintenance of district infrastructure to the highest level of engineering or designing and developing the district's infrastructure systems and networks. Employees in this classification resolve the most highly complex technical problems that are escalated beyond the expertise of professional level infrastructure staff. Employees lead new infrastructure adoptions, guide infrastructure system design and deployment of infrastructure enhancements, augmentations or adoptions. They may plan, develop and present formal documentation and hands-on training to develop and enhance the expertise of entry and professional level staff and may serve in a lead role, providing work direction and guidance to technical support staff.

EMPLOYMENT STANDARDS

Knowledge of:

Network infrastructure, hardware and software including routers, switches, firewalls and wireless devices. Programming languages, including visual basic, SQL, and scripting language (such as Cisco UCCX), their applications and uses.

Windows, Linux and Oracle based server administration and operating systems.

Unified communications control platform such as Cisco interface products.

Enterprise network monitoring systems, network system platforms, configuration management systems, standards and technology including Windows Active Directory, virtual servers and related websites.

Network, data and routing protocols; cabling topologies and their implementation.

Industry standards, technical aspects and practices for field of specialty.

Administration and configuration of end user applications, (such as Cisco networking gear, servers and storage); application development.

Physical and virtual server administration and architecture and related management tools

Server and desktop administration and virtualization.

Methods and techniques of system analysis, developing business process models, workflow or mapping and determining best practices; strategic planning and project management techniques.

Record keeping preparation techniques.

Troubleshoot and resolve infrastructure configuration and performance issues.

Terminal emulator and remote access technologies and methodologies.

Common symptoms of malfunctions of network components and possible solutions.

End user device usage and management; device functionality, configuration and upgrades.

Methodologies for managing technical change on a proactive basis

Network security concepts and systems; digital and data security methods, encryption, protocols and best practices.

The interconnectivity of system, server, virtual and network infrastructure.

Children Internet Protection Act (CIPA) and other applicable laws, codes, rules and regulations.

Oral and written communication skills.

Ability to:

Plan, organize, control and administer the District's technology infrastructure including network support operations, systems, activities and major business application systems.

Use command line interface/arguments and create templates and scripts.

Plan and implement network topology modifications; configure wired and wireless networks and devices for desired functionality.
Install, reinstall or upgrade mainstream operating systems, software applications and infrastructure hardware including peripherals.
Create clear, concise and accurate technical documentation of network topologies, system designs, processes, inventory, projects and plans; write and revise manuals and user guides.
Diagnose operating issues, analyze and detect errors or failures in programming or infrastructure; perform technical maintenance and repairs of network systems.
Apply AGILE principals to project development and problem solving.
Think critically about a problem, approach from multiple perspectives and adopt an effective course of action.
Lift, move, reposition and connect light to moderately heavy network, server and workstation equipment components according to safety regulations.
Serve as a technical resource and assure proper levels of technical support for end users.
Develop and implement long term strategic plans and project management standards.
Use project tracking software such as JIRA.
Test, evaluate, recommend and install new and emerging technologies, system upgrades or process improvements; learn and transition to new technology.
Project management and workload distribution; create proposals and presentations.
Develop and maintain technical and operational procedures to implement and support the District's network infrastructure; create and follow proper change control procedures.
Learn and develop expertise in identifying security concerns.
Maintain current knowledge of technological advances in the field.
Communicate effectively both orally and in writing.

Education and Training:

For all levels of this classification series is typically obtained through the completion of an Associate's degree in computer science, management information systems or closely related field and the following.

Experience:

The Infrastructure Administrator I requires one (1) year of experience in a technical support position or three (3) years of satisfactory experience as a Technical Support Representative II or one (1) year of satisfactory experience as a Technical Support Representative III with Portland Public Schools and a focus on PPS Infrastructure support.

The Infrastructure Administrator II requires three (3) years of experience in a specific infrastructure area such as networks or systems, or in multiple areas of IT infrastructure with demonstrated experience working as a system or network administrator or position with experience designing and implementing infrastructure configuration, diagraming and documenting network infrastructures and supporting and troubleshooting infrastructure services; or two (2) years of experience as an Infrastructure Administrator I with Portland Public Schools is required.

The Infrastructure Administrator III requires five (5) years of experience as an administrator or engineer of infrastructure systems with complex multi-platform networks, development and integration on multiple platforms, diagraming and documenting network infrastructures, conducting network systems analyses, developing security systems, developing and delivering systems operations training, mentoring junior-level staff and supporting and troubleshooting infrastructure or three (3) years of satisfactory experience as an Infrastructure Administrator II with Portland Public Schools. Experience in a lead or supervisory role is desirable.

Experience working in a public K-12 school district or public agency serving and supporting a richly diverse community is highly desirable.

A Bachelor's degree in one of the identified fields may substitute for a maximum of two (2) years of the required experience.

Additional directly related, verifiable work experience may substitute for the required degree on a year-for-year basis.

Any other combination of education, training and experience which demonstrates the candidate is likely to possess the skill, knowledge, ability and trait characteristics essential for this classification may be considered.

Special Requirements:

Some positions in these classifications require the use of a personal automobile and possession of a valid driver's license.

May participate in rotating on-call shift work to respond to issues that occur beyond the traditional work day.

WORKING CONDITIONS

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Persons with certain disabilities may be capable of performing the essential duties of this class with or without reasonable accommodation, depending on the nature of the disability.

Work Environment: Work is performed primarily in a standard office environment, data centers, and on school campuses with frequent interruptions.

Hazards: Exposure to loud noise for long periods of time in data center; potential contact situations.

Physical Demands: Primary functions require sufficient physical ability and mobility to work in an office and school setting and to routinely drive to and from District facilities; dexterity of hands and fingers to operate a computer keyboard, soldering gun, screwdriver and other standard tools, office and test equipment; sitting, standing and walking for extended periods of time; crawling, kneeling, bending at the waist; lifting, pushing, pulling and carrying cables, office equipment, computers and peripheral equipment, supplies and materials weighing up to 50 pounds; repetitive hand movement and fine coordination to use a computer keyboard; hearing and speaking to exchange information in person and on the telephone; seeing to read, identify small parts, prepare and assure the accuracy of documents.

FLSA: Infra Admin I: Non-Exempt; Infra Admin II and Infra Admin III: Exempt
Bargaining Unit: N/A
Salary Grade: Infra Admin I-27; Infra Admin II-32; Infra Admin III-37

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*Portland Public Schools recognizes the diversity and worth of all individuals and groups and their roles in society.
The District is committed to equal opportunity and nondiscrimination in all its educational and employment activities. The District prohibits discrimination based on race; national or ethnic origin; color; sex; religion; age; sexual orientation; gender expression or identity; pregnancy; marital status; familial status; economic status or source of income; mental or physical disability or perceived disability; or military service.
Board of Education Policy 1.80.020-P*