Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time.

DUTIES This is a non-career, term job with the Metropolitan Washington Airports Authority (Airports Authority). Serves as a Network Engineer in the Office of Technology (Office). Assists with the planning, designing, developing, configuring, analyzing, implementing, installing, integrating, testing, maintaining operational integrity, performing quality assurance, and managing networked systems for the transmission of information in data, voice, and/or video format with an emphasis on data and switch networks. Performs related functions.

--Oversees assigned networked systems used for the transmission of information in voice, data and/or video format, including the planning, analysis, design, development, modification, configuration, installation, integration, maintenance testing, ensuring operational integrity, and backup for the systems.

--Installs, configures, and troubleshoots network equipment such as routers, switches, firewalls, load balancers, cabling systems, modems, multiplexers, and concentrators. Identifies analyzes, and corrects complex network related problems to include security measures.

--Develops and implements configuration management plans to ensure optimization of network connectivity between remote sites for data or VoIP services throughout the installation. Develops and maintains local procedures for network, infrastructure, system operations, and product assembly and installation.

--Prepares recommendations, justifications, and specifications for Local Area, Wide Area, and Wireless Local Area Networks (LANs, WANs, WLANs) and Virtual Private Networks, Machines (VPNs and VMs) or Networks and/or associated VoIP equipment. Participates in management discussions, meetings, and committees, to provide network systems advice, interpretation, and assistance, as requested. .

--Creates and maintains documentation relating to network configuration, network mapping, processes, and service records to assist in activities such as change management and audits.

--Communicates and interacts effectively with internal and external business contacts, including but not limited to other members of the unit/team, other Airports Authority employees (such as executives, managers, supervisors, professionals, and support staff), consultants, vendors, and suppliers.

--Uses a computer, tablet, or smart phone for various applications (email and communications, word processing, data entry, compiling information for reports, spreadsheets, graphics, flow charting, planning, scheduling, presentations, etc.), as well as specialized software/systems (such as OPnet and Solarwind) used in the Office.

--Uses a sedan or similar vehicle to travel to work sites, meetings, etc., landside and, as required, airside.

Performs other duties as assigned.

Critical features of this job are described under the headings below. They may be subject to change through reasonable accommodation or otherwise.

MINIMUM QUALIFICATIONS (MQs)

To be rated qualified for this job, an applicant must meet all of the MQs listed below at the time of vacancy announcement closure.

1. A Bachelor's Degree in Computer Science, Information Technology or any other field providing a strong foundation for success in the DUTIES in this job description, or an equivalent combination of education, experience and training that totals four years.

2. Six years of progressively responsible experience implementing and managing hardware and software and creating operating procedures for enterprise-wide network systems for the transmission of information in voice, data, and/or video format that includes substantive work in most of the DUTIES in this job description, to include:

    a. Experience analyzing, identifying and documenting functional IT network requirements of customers' specific needs, translating findings into functional requirements, and developing supportable recommendations for enhancement, **and**

    b. Experience with equipment installation, maintenance, and troubleshooting. This includes experience reviewing, evaluating, and calibrating components such as switches, routers, firewall, load balancers, cabling systems, modems, multiplexers, and concentrators, to achieve peak efficiency within the overall network connectivity, **and**

    c. Experience analyzing network utilization statistics through data collection and performance measures to identify problems and solutions to ensure smooth, reliable, and robust network operation, **and**

    d. Experience conducting in-depth analyses of network usage, user complaints, traffic interruptions, hardware and software capabilities, and other relevant factors to achieve peak efficiency.

PREFERRED QUALIFICATIONS

The qualifications listed below (if any) are preferred and may be considered in the selection process, but are not required to be rated qualified for this job.

1. Cisco Certifications such as Cisco Certified Network Associate (CCNA), Certified Internetwork Expert (CCIE), Certified Design Professional (CCDP), or Customer Voice Portal (CVP).

2. Experience with Data Center Consolidation, penetration testing, ethical hacking, and performing security assessments (such as Nessus vulnerability scanner and Metasploit penetration testing).

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER FACTORS (KSAOs)

The following KSAOs are required for successful performance of this job and are a basis for rating and ranking applicants who are found to meet the MQs. *Local, Federal, airport industry or Airports Authority specific bodies of knowledge listed below may be acquired on the job, typically; ability to rapidly acquire them is required at the time of vacancy announcement closure.*

1. Knowledge of, and skill working on, enterprise-wide LANs, WANs, WLANs, VPNs, and virtual networks to achieve peak efficiency within the overall network connectivity. This knowledge includes:

   a. Knowledge of Cisco devices, specifically Cisco routers and switches and Cisco Adaptive Security Appliance (ASA) firewall devices, and Cisco implementations of LAN, WAN, VPN, firewall clusters, secure wireless, and remote access.

   b. Knowledge of current network architect protocols and standards, including Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Generic Routing Encapsulation (GRE), Policy Based Routing (PBR), Network Address Translation (NAT), Dynamic Host Configuration Protocol (DHCP), Domain Naming System (DNS), Network Time Protocol (NTP), Hot Standby Router Protocol (HSRP), Quality of Service (QoS), and multicast.

   c. Knowledge of technologies including Virtual Local Area Networks (VLANs), Rapid Spanning Tree Protocol (RSTP), IEEE standard 802.1q, Power Over Ethernet (PoE), trunks, Link Aggregation Groups (LAGs), T1/DS1 standards, frame relay, Multiprotocol Label Switching (MPLS), Transport Layer Security (TLS), and Point to Point Protocol (PPP).

   d. Knowledge of Wired Equivalent Privacy (WEP) vs. Wi-Fi Protected Access (WPA) vs. Wi-Fi Protected Access version 2 (WPA2), Protected Extensible Authentication Protocol/Extensible Authentication Protocol (PEAP/EAP), rogue mitigation, AirMagnet, and NetStumbler.

   e. Knowledge of wireless systems include: trunked UHF/VHF/HF systems, regulated and unregulated radio and wireless network systems, personal wireless communications systems (PWCS), wireless teleconferencing, and wireless LANs to support Wing, Geographically Separated Units (GSU), and Tenants

2. Skill in problem solving to select, organize, analyze, and logically process relevant information (verbal, numerical, or abstract) to solve a problem. This includes the ability to recognize subtle aspects of problems, identify relevant information, and make balanced recommendations and decisions. Examples include synthesizing information from network architecture plans, manuals, designs, reports, information about new technologies to identify trends and make recommendations and to develop and review change orders.

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3. Skill in written communication to understand written information (including instructions, descriptions, and ideas) and to express such information in writing so that others will understand, and in certain circumstances, be convinced or persuaded. This includes skill in understanding written technical information such as system flow charts, traffic flow, and data processing concepts; in documenting and preparing technical reports (such as documentation of network records, network configurations, Visio maps, operational procedures and manuals, network resource administration policies and procedures); and in assisting in the preparation of short- and long-term strategic plans.

4. Skill in oral communication to understand verbal information (including instructions, descriptions, and ideas) and to express and exchange routine and non-routine information verbally so that others will understand, and in certain circumstances, be convinced or persuaded. This includes skill in expressing information in a way that is clear, complete, concise and easily understood by technical or non-technical audiences and skill in encouraging effective oral communication by others, such as team members and consultants regarding network activities and end users regarding needs, concerns, recommendations, and plans.

5. Interpersonal skills to interact effectively with business contacts in a businesslike, customer service-oriented manner. This includes skill in managing customer expectations, working with customer to develop solutions to situations and scenarios with multiple parties and agendas, influencing customer perception and acceptance of change and innovation, proactively managing risk areas and escalations, and engaging customer, partner, and executive resources in the most effective manner.

6. Skill in using a computer for designing, testing, implementing, monitoring and evaluating software, hardware, and networks; and for using various office productivity applications (email, project management software, word processing, spreadsheets, graphics, flow charting, etc.).

RESPONSIBILITY Responsible for the planning, analysis, design, development, implementation, quality assurance, configuration, installation, integration, maintenance testing, operational integrity, and/or management of networked systems for the transmission of information in data format. The work directly impacts the Airports Authority's efforts to design, implement, and maintain a network and telecommunications infrastructure that effectively supports its activities.

Reports to the Network Manager (Supervisor). Supervisor assigns work by defining functional responsibilities and setting overall objectives and priorities. Incumbent performs regular and recurring duties independently with little direct oversight while staying in close communication with the Supervisor to allow for discussion of unexpected issues or developments within the normal workload. Special assignments may be assigned on an ad-hoc basis, with brief of specific instructions, to support management initiatives relating to shifting Airports Authority needs or requirements. The Supervisor reviews incumbent's work for quantity, quality, timeliness, customer service, adherence to guidelines and other factors, including specific performance management goals and measures.

Guidelines include, but are not limited to: Office of Technology policies and procedures; overarching technology and Office plans (including strategic and annual technology plans); generally-accepted IT standards, protocols and practices; and technical manuals regarding hardware, software, power, back-ups, etc. Some of these guidelines leave gaps while others allow for wide discretion; the incumbent uses judgment and initiative to assess implications of issues, develop solutions and make recommendations or decisions providing an effective response that appropriately balances competing technical, administrative, budgetary and other types of demands.

EFFORT Work is primarily sedentary, but also involves light to moderate physical exertion. Incumbent may sit for extended periods while performing desk work. Regularly moves about the airport to coordinate and inspect work. Occasionally works in areas that may require access by climbing or crawling, or working in cramped or awkward positions to manually adjust wires, controls, and other pieces equipment. Regularly uses a computer to access databases, prepare documents, and review on-line specifications. Operates vehicle using judgment based on traffic, weather, and other factors.

WORKING CONDITIONS Works in an adequately lighted, ventilated and temperature-controlled office setting. May be subject to pressures such as having to achieve tight project schedules with competing interests between business contacts.

OTHER SIGNIFICANT JOB ASPECTS Subject to holdover, work after hours, or recall to minimize disruption to airport operations due to maintenance, updates, implementation, or testing, or in the event of problems (such as outages or other emergencies) and for other reasons.