

## CITY OF MADISON POSITION DESCRIPTION

1. Name of Employee (or "vacant"):  
Jon Silverwood  
Work Phone: 266-4206
2. Class Title (i.e. payroll title):  
Information Technology Specialist 4
3. Working Title (if any):
4. Name & Class of First-Line Supervisor:  
Chris Lueder – Principal IT Specialist  
Work Phone: 261-9646
5. Department, Division & Section:  
Information Technology Network Operations Section
6. Work Address:  
210 MLK Jr. Blvd. Room 525 City-County Bldg., Madison
7. Hours/Week: 38.75  
Start time: 7:00 End time: 4:30
8. Date of hire in this position:
9. From approximately what date has employee performed the work currently assigned:

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10. Position Summary:

This is professional leadership work in the design and support of fiber optic, local area, and wide area networks. This includes the Intelligent Transportation System network (ITS), SCADA network, city data, voice and video network, 800 MHz radio system backhaul network, and the fiber to the premise (FTTP) network (AKA Digital Divide network). This also includes working with fiber network consortium members (AKA Metropolitan Unified Fiber Network Consortium or MUFN-C) to lead in the development of processes to maintain and expand existing shared networks while representing City interests. Duties of this position include the design, development and implementation of city-wide fiber-optic network infrastructure, major network components, network support systems and network management systems in a secure environment. Work is characterized by significant technical or project leadership responsibility for the development and implementation of specified technology areas. Employee may be expected to supervise other employees on a project basis, and provide general leadership to lower-level staff. Employee works under the general supervision of a Principal IT Specialist or other supervisor/manager and operates with considerable independence in meeting established objectives.

11. Functions and Worker Activities: (Do NOT include duties done on an "Out-of-Class" basis.)

- 25% A. Plan fiber optic network growth
1. Work with city staff from multiple agencies, MUFN-C members and commercial partners to plan fiber-optic infrastructure expansion throughout the City of Madison.
  2. Collaborate with appropriate city staff to write ordinances and policies to provide guidelines for fiber to the premises network.
  3. Identify budget requirements for fiber-optic networks.
  4. Provide updates to the public, city leadership and city staff regarding the status of fiber-optic networks.
  5. Act as Chairperson of the MUFN-C Network Operations Sub-Committee.
  6. Provide operational updates and network growth/maintenance recommendations to the MUFN-C Oversight Committee.
  7. Provide operational updates and network growth/maintenance recommendations to the Digital Technology Committee for the Digital Divide network.
  8. Provide operational updates and network growth/maintenance recommendations to the commercial partner and the Digital Technology Committee for the FTTP network.
- 25% B. Wiring Infrastructure engineering, design, installation and support
1. Work with city staff, commercial partners, and vendors to evaluate fiber-optic infrastructure needs and design wiring infrastructure
  2. Provide wiring specifications to vendors
  3. Evaluate vendor bids
  4. Participate in contract negotiations and contract creation with vendors.
  5. Update wiring documentation system
- 15% C. Cisco switch/router installation, configuration and support
1. Replace end-of-life network switch/routers/wireless access points (WAPs)
  2. Update switch/router configurations
  3. Update network documentation
  4. Evaluate switch/router performance and troubleshoot problems
  5. Install switch/router/wireless access point(WAP) IOS updates, security updates and patches
  6. Install and configure monitoring and backup systems for network devices.
- 15% D. Network security design, installation and support
1. Install Firewall/VPN IOS updates, security updates and patches.
  2. Update firewall configurations and documentation
  3. Install and configure VPN appliances at remote customer sites
  4. Document and manage client VPN accounts
  5. Evaluate Firewall/VPN performance and troubleshoot problems
  6. Update Internet service routing configuration and documentation.
  7. Install Load Balancer updates and security patches.
  8. Update Load Balancer configurations and documentation
  9. Assist with Management of Security Appliance
- 10% E. TCP/IP Network design and support
1. Design and configure TCP/IP networks
  2. Configure and maintain DNS/DHCP services
  3. Configure and maintain external DNS with City's Internet service provider.
  4. Maintain TCP/IP network documentation
  5. Configure and maintain network management/monitoring software
- 10% F. Project Management for installation and implementation of new network products
1. Meet with customers to determine business need and constraints
  2. Evaluate product for technical and security considerations
  3. Determine budget for product, hardware, security assessment, licenses and other components

4. Determine staffing requirements
5. Develop timeline for implementation in cooperation with customer
6. Coordinate with other technical teams for hardware build, development requests, web-site considerations, firewall changes, Help Desk support, and licensing and maintenance costs
7. Schedule and document all network changes
8. Provide education to IT staff and customer by way of in-person discussions and written documentation.
9. Install product on the City network in accordance with Change Management procedures
10. Test product and enable customer to work directly with the product
11. Conclude project and provide long term product support

12. Primary knowledge, skills and abilities required:

Thorough knowledge of designing and building network infrastructure using fiber-optic cable. Thorough knowledge of management information system networking considerations. Thorough knowledge of LAN design and configuration in a high-availability switched/routed Ethernet environment and WAN design and configuration using fiber-optic/category 5/5e/6/ cable, and wireless interfaces. Thorough knowledge of protocol analysis tools to troubleshoot LAN/WAN issues. Thorough knowledge of TCP/IP. Thorough knowledge of remote access design and configuration. Thorough knowledge of Internet security configuration and management (switch, router, VPN and firewall configuration). Working knowledge of wireless mesh and point-to-point wireless network design, installation and support. Ability to troubleshoot and resolve routine hardware and software computer network malfunctions. Ability to communicate effectively both orally and in writing. Ability to develop and maintain effective working relationships with internal staff and staff of other agencies. Ability to provide advice, consultation, and training to diverse user groups. Ability to resolve problems in a timely and effective manner, and to maintain an awareness of project deadlines and communicate project status, risks, and other issues. Ability to multi-task and prioritize responsibilities. Ability to effectively participate in team efforts to improve departmental programs and services. Ability to evaluate hardware and software and recommend purchase. Ability to exercise considerable judgment and discretion in completing assigned tasks. Ability to provide consultation, training and leadership to lower level staff. Ability to provide project leadership. Ability to lay out, plan, and review work. Ability to represent department interests in sensitive interaction with customers and in vendor negotiations. Ability to maintain adequate attendance.

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13. Special tools and equipment required:

None

14. Required licenses and/or registration:

None

15. Physical requirements:

16. Supervision received (level and type):

17. Leadership Responsibilities:

This position: ☐ is responsible for supervisory activities (Supervisory Analysis Form attached).  
☒ has no leadership responsibility.  
☐ provides general leadership (please provide detail under Function Statement).

18. Employee Acknowledgment:

☒ I prepared this form and believe that it accurately describes my position.  
☐ I have been provided with this description of my assignment by my supervisor.  
☐ Other comments (see attached).

  
\_\_\_\_\_  
EMPLOYEE

10/26/15  
\_\_\_\_\_  
DATE

19. Supervisor Statement:

☒ I have prepared this form and believe that it accurately describes this position.  
☐ I have reviewed this form, as prepared by the employee, and believe that it accurately describes this position.  
☐ I have reviewed this form, as prepared by the employee, and find that it differs from my assessment of the position. I have discussed these concerns with the employee and provided them with my written comments (which are attached).  
☐ I do not believe that the document should be used as the official description of this position (i.e., for purposes of official decisions).  
☐ Other comments (see attached).

  
\_\_\_\_\_  
SUPERVISOR

10-26-15  
\_\_\_\_\_  
DATE

Note: Instructions and additional forms are available from the Human Resources Dept., Room 501, City-County Bldg. or by calling 266-4615.