

Network Engineer Job Family

JOB TITLE	NETWORK ENGINEER Admin Level 3	SENIOR NETWORK ENGINEER Admin Level 4
Promotion Criteria	Typically >4 years experience, including support of large/complex, heterogeneous network. Appropriate technical certification. Knowledge of advanced configurations, internet connectivity and multiple technologies. Understanding of how hardware/software systems support business activities.	Typically >6 years experience with networks. Proficiency with new technologies/platforms/software. Understanding of technical infrastructure to make modifications, enhancements. Expert troubleshooting skills. Experience with Project management and planning activities. Full project life cycle experience.
Position Overview Statement:	Intermediate level IT professional who works with other team members in the planning, development, maintenance, and operation of existing and new technologies for MIT's network infrastructure. Ensures network connectivity to both LAN/WAN, including the engineering of standard data communications services. Manages small to moderate projects under senior direction.	Experienced IT specialist who provides technical and operational management support to the senior management. Consults with management on project design/development needs. Manages projects of moderate scope or complex projects under senior direction.
Principal Duties and Responsibilities	<ul style="list-style-type: none"> Monitors the daily operation of networked systems and applications. Analyzes and resolves assigned network problems. Maintains network routers, electronic mail services and network management systems. Tests and evaluates network systems to eliminate problems and make improvements. Prepares network documentation. Assists in planning, development and operation of network infrastructure. Assists in establishing and maintaining operational procedures and submits recommendations for improvements. Works with internal technical personnel and external consultants/vendors in implementing and maintaining LAN/WAN networks and keeps end users informed regarding network issues. Assists in evaluating new technology and makes recommendations for hardware and software acquisitions. May function as a team leader on assigned projects. 	<ul style="list-style-type: none"> Assists in defining and maintaining MIT's network infrastructure and operational procedures, upgrading existing services, and planning for growth. Uses knowledge of LAN/WAN systems to help design and install internal and external network services. Responsible for Domain Name, Kerberos security, Web, e-mail (e.g., mail forwarding, post office mail storage, SPAM filtering), online calendaring, as well as other network services, including Active Directory Infrastructure. Tests and evaluates network systems to eliminate problems and submits recommendations for improvements in network operation and management. Engineers non-standard, highly complex data communications services and performs technical support (e.g., configuration, troubleshooting) on highly complex network problems. Creates and maintains documentation regarding networking infrastructure, standards and projects. Consults with MIT departments and evaluates new technology to make recommendations for hardware and software acquisitions. Participates in the interviewing, hiring and evaluating of staff. Provides technical leadership to other IT staff. May function as a project leader for assigned projects.

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Supervision Received:	Under general supervision of Senior IT Manager and/or Senior Project Manager. Employee determines appropriate work methods, plans, schedules, and prioritizes work based on goals and objectives to be achieved, within standards of work unit; carries out work activities independently. Consults with senior management to resolve unusual problems or to provide general direction.	Under minimal supervision of Senior IT Manager, Senior Project Manager and/or Director. Employee sets own goals and determines how to accomplish results with few or no guidelines to follow; precedents may exist; senior management provides broad guidance and overall direction.
Supervision Exercised:	Guides or directs work of others who may perform similar or related work. Plans, organizes, prioritizes, and schedules work. Reviews work quality and output and processes to follow. May participate in interviewing potential candidates, contribute to performance reviews, makes recommendations for training, and other developmental plans. May provide project leadership.	Supervises work of others, including planning, assigning, and scheduling work. Reviews work and ensures quality standards are met. Trains staff and oversees their productivity. Coaches and manages people, and/or provides project leadership. May offer recommendations for hiring, termination and pay adjustments, but does not have responsibility for making these decisions.
JOB IMPACT		
Overall Impact	Role has intermediate-term impact IS&T wide. Shares responsibility for the results of an entire functional area.	Work generally has longer term impact, and significantly affects how business is done in a functional area within IS&T or a major customer. Individual has significant share of responsibility for the results of team.
Complexity:	Moderate, although may have high level of complexity in a particular area.	High level, including multiple areas with high levels of complexity.
Organizational/ political	Balances the competing short- and long-term goals within one's team in alignment with IS&T goals and initiatives.	Involves multiple departments with significant political impact.
Change Management	Moderate. May lead and facilitate organizational change to improve strategic use of IT solutions.	Significant. Creates consensus base for innovation. Assures that change "champions" are identified and engaged.
Number of Projects	Moderate scale projects.	Large scale projects.
Contacts Required to Perform Job	Frequent contact with customers and vendors. Also maintains contact with staff in comparable or related areas across IS&T.	Works with internal staff and external professionals (consultants, vendors) to plan and manage network related projects from design to implementation. Works with other teammates to define new services and upgrade existing services.

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QUALIFICATION S/ TECHNICAL SKILLS:		
Qualifications	At least 4 years of experience in the development and implementation of IT infrastructure, including Microsoft workstation and server operating systems, network switches/hubs, routers, and VPN implementation. Requires thorough knowledge of networking fundamentals (e.g., Mac, Windows, Linux, UNIX). Progressive experience working with diagnostic tools. Physical ability to safely manipulate, install and troubleshoot equipment and lift 50 lbs. is required.	At least 6 years of demonstrated technical network experience in a large, complex LAN/WAN environment. In-depth expertise in Domain Name, e-mail, Web, online calendaring, as well as other network services. Familiarity with various software systems (e.g., sendmail, BIND, Cyrus, Apache, Kerberos) running on various operating system platforms (e.g., Mac, Windows, Linux, UNIX). Familiarity with hardware debugging and replacement. Ability to program in various languages (e.g., C, C++, Java, Python, Perl, etc.). Willingness to work directly and communicate effectively with customers (faculty, staff and students), assessing their needs and analyzing and resolving their problems. Bachelor's degree preferred.
Knowledge, Skills & Expertise	Requires a thorough understanding of both theoretical and practical aspects of own professional discipline. Requires in-depth understanding of the purpose and operations outside one's own area. Understands internal/external clients; may require awareness of external trends and best practices. Participates in a 24 x 7 x 365 on-call rotation schedule.	Requires in-depth knowledge of principles, practices and theories in own professional discipline. Requires a minimum of 4 years network related project management experience designing solutions for internal/external clients. May have knowledge of more than one professional discipline and is considered a resource for others. A proven track record of technical innovation. Participates in a 24 x 7 x 365 on-call rotation schedule.
Critical Thinking & Problem-Solving	Recognizes problems or situations that are new or without clear precedent. Finds solutions using a systematic, multi-step approach. Primarily responsible for developing improvements and innovations to enhance performance.	Identifies, develops and initiates innovations and solutions where precedents and procedures may not exist. May work cross-functionally to solve problems and implement changes. Analyzes decisions and actions for their support of the larger area's strategic direction. May work with senior management, resolving more complex problems.
Collaboration	Within one's unit or sphere of operation, determines people who are critical to accomplishments results, and may bring them together to problem solve or share workload. May lead groups through process of problem solving, soliciting ideas and opinions to form recommendations or action plans. Works to identify and solve issues in the group.	Actively participates in cross-functional groups to solve problems. Responds to requests to provide resources and organizational structure to promote collaborative initiatives. Utilizes a network of relationships to collect and disseminate information, build support and secure buy-in for desired objectives.

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Communication Effectiveness	Writes and presents reports, contracts and/or proposals for internal and/or external audiences. Interprets other viewpoints and assimilates them into work processes. Formally transfers technical or administrative knowledge to others.	Handles broad-based, often complex, communication for internal and/or external audiences. Creates a forum and format for ongoing open communication within functional area or among departments. Handles conflict resolution to maximize opportunity and minimize exposure to risk.
Decision Making	Decision making guided by specific policies and objectives within which frequent decision are required. Assists in formulating recommendations on difficult problems.	Responsibilities include regularly making decisions and taking independent action on matters affecting a Department/School. Participates in strategy development.
Influencing and Leading	May have formal supervisory and/or coaching responsibility in a work unit. Establishes and leads project timelines or short-term goals. Motivates others towards completion of tasks and assignments. Helps others to think through alternatives and choices.	Develops department's standards and goals. Creates and promotes a work environment through education, training, and professional opportunities within one's own area. Frequently persuades and negotiates in complex and/or sensitive matters. Influences through formal authority.
Responsibility & Accountability	Develops specific goals for one's own work. Seeks out and identifies multi-faceted problems and opportunities, taking immediate action to address them. Recognizes immediate obstacles to completing work. Initiates action to address a need without being directed.	Work significantly affects a Department or large functional area within a School or Central Administrative area. Prioritizes projects; follows departmental processes. Typically directs the work of others. Acts decisively in critical situations or to circumvent a potential problem.