Infrastructure Connectivity Management and Engineering Key Performance Indicators

For the entry-level employee, all tasks are typically done under supervision for much of the first year and then with some independence with verification after the employee has more experience. All tasks are done according to company guidelines.

	Task	Key Performance Indicators
Install		
T-1	Configure and optimize network, routers, and switches (e.g., higher-level protocols, tunneling).	Installation or upgrade plan is complete and accurate and company guidelines are followed.
T-2	Install and maintain network infrastructure device operating system software (e.g., IOS, firmware) which would include patching network vulnerabilities to safeguard information.	All components and devices (including IoT) are properly connected. Operating system and application software and upgrades are installed and configured according to specifications.
T-3	Install or replace network, routers, and switches.	Required network protocols are correctly installed and tested. System hardware and software are configured to specification. Network interfaces (e.g. LAN to WAN) are correctly connected and configured.
T-4	Implement group policies and access control lists to ensure compatibility with organizational standards, business rules, and needs.	Network security devices and software (e.g., firewall, routers, anti-virus software) are correctly installed by peer reviews or supervisor. Accounts are set up following standard operating procedures.
T-5	Validate/update baseline system security according to organizational policies.	Final overall tests to ensure full network resilience and functionality are properly performed. Current software upgrades including operating system patches anti-virus database are installed.
T-6	Install, update, and troubleshoot systems/servers.	Requirements for systems security are properly identified by peer reviews or supervisor.
T-7	Installation, implementation, configuration, and support of system components.	Communication regarding changes in procedures is distributed to all necessary parties in a timely manner.
Troubleshoot		
T-8	Diagnose network connectivity problems.	Appropriate data analysis and troubleshooting techniques per organizational standard are used to diagnose the problem. Problem is correctly identified and causes are isolated per organizational standard.
T-9	Troubleshoot faulty system/server hardware.	Solutions are thoroughly tested and implemented with minimal risk to network performance per organizational standard.
T-10	Troubleshoot hardware/software interface and interoperability problems.	Problems, solutions, and implementation processes are thoroughly documented and clearly communicated per organizational standard.
Document		
T-11	Follow SOP and validate/update documentation of compliance.	New configuration, system specifications, and installation and test results are clearly and completely documented. Systems security procedures are properly documented and approved in accordance with company guidelines. Documentation follows company format and standards and is at the appropriate level of detail. Inventory of parts includes accurate identification, tagging, and location. Accurate and up-to-date records (e.g., device configuration and user accounts) are maintained to ensure system integrity.
Monitor, Maintain, Operate		
T-12	Integrate new systems into existing network architecture.	Integration and testing are performed according to project and company schedules, priorities, and guidelines.
T-13	Monitor network capacity and performance.	Preventive maintenance plan and monitoring procedures are updated. Documented performance requirements are used to monitor network and recommend system improvement.
T-14	Test and maintain network infrastructure, including software and hardware devices.	System configuration is optimized to meet user needs with minimal disruption.
T-15	Conduct functional and connectivity testing to ensure continuing operability.	Performance is monitored according to procedures and is compared to baseline performance for discrepancies; reports are generated.
T-16	Support group policies and access control lists to ensure compatibility with organizational standards, business rules, and needs.	Traffic capacity and performance characteristics are monitored, and technician knows how to involve others to handle concerns.
T-17	Manage accounts, network rights, and access to systems and equipment.	Component and connectivity problems are monitored and reported. Functional verifications, system audits, and backups are performed according to proper procedures.
T-18	Provide ongoing optimization and problem-solving support.	Patches are applied to affected software and hardware in a timely manner, and are properly tested.
T-19	Check system hardware availability, functionality, integrity, and efficiency.	Disruptions, outages, security violations, and attacks of network services are monitored, recognized, and escalated in a timely manner according to company procedures.
T-20	Conduct periodic system maintenance including cleaning (both physically and electronically), disk checks, routine reboots, data dumps, and testing.	Diagnostic software is run to verify that the components are operating, and tests are performed.
T-21	Implement local network usage policies and procedures.	System backups and other maintenance tasks are performed and documented according to scope, schedule, and procedure.
T-22	Manage system/server resources including performance, capacity, availability, serviceability, and recoverability.	System back-ups are verified and periodic test restores are performed. Components are correctly programmed, integrated into the system and backed up, and all security procedures are followed.
T-23	Monitor and maintain system/server configuration.	Tests for functionality and safety of equipment and systems are completed.
T-24	Perform repairs on faulty system/server hardware.	Communication regarding changes in procedures is distributed to all necessary parties in a timely manner.