

Network Monitoring System — Setup and Troubleshooting Guide

Overview

A Network Monitoring System (NMS) tracks devices, bandwidth, latency, and uptime. It helps detect outages and performance issues.

Components

- Monitoring Server: Central hub.
- Agents: Send performance data.
- Dashboard/UI: Displays metrics and alerts.
- Database: Stores logs and configs.

Installation Steps

1. Install NMS software (e.g., Zabbix, Nagios).
2. Configure SNMP or API access.
3. Add devices by IP.
4. Set up alert rules.
5. Test alerts.

Common Protocols

- SNMP
- ICMP (Ping)
- NetFlow / sFlow
- SSH / REST APIs

Troubleshooting Tips

Issue	Cause	Solution
No data	SNMP disabled	Enable SNMP
High CPU	Too many checks	Increase interval
False alarms	Wrong thresholds	Adjust conditions

Performance Optimization

- Use distributed monitoring.
- Store logs in time-series DB.
- Archive old logs.

Security Considerations

- Restrict SNMP access.
- Encrypt communications.
- Update agents regularly.

Example Tools

- Open-source: Zabbix, Prometheus, Nagios
- Commercial: SolarWinds, PRTG