

## Network Infrastructure Monitoring Tool for Small and Medium Scale Enterprises

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Modern SMEs utilize some form of computer network to accommodate both internal employees and external customers. Hence, managing the network infrastructure is crucial for SMEs. Network infrastructure monitoring is utterly important for network management, to attend to any critical situation as preventive measures for corrections. Eventually, a hassle-free network is introduced, assuring 24x7 availability. As a result, some form of a network infrastructure monitoring tool (NIMT) is an essential element for SMEs, despite the fact that commercially available high-end NIMTs are not affordable in any situation. On the other hand, many SMEs do not consider incorporating an NIMT with priority, since they can still survive with the primary business process, although there are significant interruptions of the network infrastructure. Nevertheless, the involvement of ICT experts is essential on either a full-time or part-time basis to operate high-end NIMT, due to the complexity to deploy and maintain it. As a result, "How to introduce comprehensive, user-friendly, affordable and maintainable NIMT for SMEs?" is the research question. In our methodology, the literature is evaluated for understanding the unique requirements of network management, and the available NIMTs are analysed under eight specific functionalities. Subsequently the design is finalized, focusing on the requirements of SMEs and the system development is based on python, whereas the operating system is Linux. More importantly, the user interface is based on PHP, while the database is on MariaDB. This all-in-one NIMT solution can be used by anyone for essential network analysis. Moreover, SMEs shall benefit from this solution in an effective manner, with neither extra software license cost nor the involvement of ICT experts.

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