

Virtual Firewall Deployment

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Abstract: *Objective: To provide scalable, cost-effective, and flexible security measures for virtualized environments by deploying a virtual firewall to protect against cyber threats.*

Architecture: Virtual firewalls act as software-based firewalls deployed within virtualized networks (e.g., VMware, Hyper-V, or cloud environments like AWS, Azure). They function similarly to traditional hardware firewalls but are designed to operate in virtualized settings, providing granular control over network traffic, segmentation, and security policies.

Implementation: The virtual firewall is configured to inspect and filter traffic between virtual machines (VMs), subnets, and external networks. It ensures security across multiple virtualized network interfaces, reducing risks associated with dynamic workloads and cloud deployments

Keywords: IoT, Smart Toll System, Node MCU, GPS, Automatic Toll Collection, RFID, Transportation