

Research on MPLS VPN and building a simulation model of MPLS VPN network on GNS3 software

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Abstract: This topic aims to study Protocol Independent Multicast - Multiprotocol Label Switching Virtual Private Network (PIM-MPLS VPN) to meet the diverse data transmission requirements in modern network environments. Accordingly, the objective of the research is to build a simulation model of an MPLS VPN network using GNS3 software to evaluate the performance and practical deployment capability of this technology. The method applied combines theoretical research with application deployment in a lab environment, thereby drawing conclusions about the reliability and efficiency of MPLS VPN in enterprise networks.

Keywords: MPLS VPN, Protocol Independent Multicast (PIM), GNS3, network simulation, system building