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| Abstract |  |
| A virtual private network (VPN) is a method for the extension of a private network across a public network, such as the Internet. It enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network, and thus are benefiting from the functionality, security and management policies of the private network. A VPN is created by establishing a virtual point-to-point connection through the use of dedicated connections, virtual tunneling protocols, or traffic encryption. A VPN spanning the Internet is similar to a wide area network (WAN). From a user perspective, the extended network resources are accessed in the same way as resources available within the private network. Traditional VPNs are characterized by a point-to-point topology, and they do not tend to support or connect broadcast domains. Therefore, communication, software, and networking, which are based on OSI layer 2 and broadcast packets, such as NetBIOS used in Windows networking, may not be fully supported or work exactly as they would on a local area network (LAN). VPN variants, such as Virtual Private LAN Service (VPLS), and layer 2 tunneling protocols, are designed to overcome this limitation. Our main objective is design VPN network and explain it. | |

**Please specify which Sustainable Development Goal (SDG) (s) falls under your research:**

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| Goal 3 | Good Health and Well-Being | Goal 4 | Quality Education |
| Goal 5 | Gender Equality | Goal 6 | Clean Water and Sanitation |
| Goal 7 | Affordable and Clean Energy | Goal 8 | Decent Work and Economic Growth |
| Checkmark PNG, Checkmark Transparent Background - FreeIconsPNGGoal 9 | Industry, Innovation and Infrastructure | Goal 10 | Reduced Inequalities |
| Goal 11 | Sustainable Cities and Communities | Goal 12 | Responsible Consumption and Production |
| Goal 13 | Climate Action | Goal 14 | Life below Water |
| Goal 15 | Life on Land | Goal 16 | Peace, Justice and Strong Institutions |
| Goal 17 | Partnerships for the Goals |  |  |