Packet Tracer Research Paper

Packet Tracer is a cross-platform visual simulation tool designed by Cisco Systems that allows users to create network topologies and simulate modern computer networks. The software allows users to simulate the configuration of Cisco routers and switches using a simulated command line interface. Packet Tracer is currently available as a desktop application on PC, Mac, and Linux and as a mobile app on iOS and Android.

Packet Tracer can be used as a blueprint to create a network. This is useful for simulating networks and optimizing network performance before investing money in hardware. Packet Tracer can also be used to test updates and upgrades before a mass roll-out. This could be used to seek out problems that the update or upgrade could potentially cause saving time and money. Packet Tracer can also be used as a learning tool for students and those new to Cisco Systems due to its easy- to-use interface.

However, there are some drawbacks to Packet Tracer. One such drawback is that Packet Tracer only simulates products designed by Cisco Systems. Packet Tracer is only a simulation, not real hardware therefore, you would need to purchase the hardware and systems in order to set-up a working network. Another drawback is that not all available commands for routers and switches can be simulated in Packet Tracer. Some examples of commands that are not simulated are “show interface status” and “maximum-paths”. “Show interface status” can be used to view information about a switch’s ports. This command can be used to check whether or not a port is connected to the correct computer. “Maximum-paths” can be used to control the maximum number of parallel routes that the Enhanced Interior Gateway Routing Protocol (EIGRP) can support. Reducing the number of routs can increase network throughput. A final drawback to Packet Tracer is its lack of Firewall support.

There are many alternatives to Packet Tracer. One such alternative is Graphic Network Simulator-3 (GNS3). GNS3 is a free and open-source network simulator. An upside to using GNS3 is that it runs a full version of the Cisco Internetwork Operating system on simulated hardware. This allows GNS3 to realistically simulate all the functions of Cisco products. Another upside to GNS3 is its virtualization support. It has support for both VMware and VirtualBox. Thanks to its open-source nature, GNS3 has support for network products created by Juniper Networks Inc. A downside to GNS3 is that it requires a moderately powerful computer to use. Many companies, including Starbucks, Google, and Intel, currently utilize this program as an alternative to Packet Tracer. GNS3 is available for PC, MacOS and Linux.

In conclusion, Packet Tracer is a great resource for simulating networks and finding problems before moving to hardware. There are also alternatives options available if the drawbacks to Packet Tracer do not work for your network or business.

# Sources

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