

EstiNet Network Simulator and Emulator

Overview

EstiNet network simulator and emulator is one of the most popular network simulation tools for network simulation and emulation. By using EstiNet, one can create his network topologies with friendly GUI, run simulation with real-world applications and review simulation results in the animation playback mode.

Key Features and Benefits

Use real-world protocol stacks

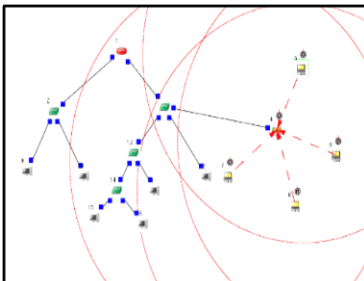
Linux kernel's TCP/IP & UDP/IP protocol stacks are directly integrated in simulated networks to provide real layer-3 and layer-4 protocol behavior for network applications.

Support real-world Linux network applications

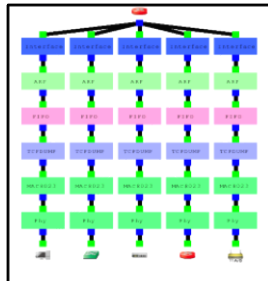
A Linux-based network application program, that can be run up on a real Linux network device, can be directly run up on a simulated network device. Running real programs reflects real network applications' behavior in simulated networks. This helps to develop and test applications' functionalities in simulated networks. It also helps to use real network applications to test newly-invented or modified lower-layer protocols and mechanisms.

Interact with real-world network devices

When turning a simulator into an emulator, a simulated network/device can interact with a real-world network/device. An emulator builds a testing network field consisting of physical and virtual devices. The software functionalities of a physical device can be developed and tested in the testing field.



Topology Editor



Protocol Modules



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Major Functions

Wired Network Features

- Simulated Switch, Hub, Router and Host Devices
- IEEE 802.3 Protocol & Spanning Tree Protocol
- OSPF & RIP Routing Protocols
- FIFO, DRR, and RED Buffer Management Models

Wireless Network Features

- Simulated WiFi AP & WiFi STA Devices
- IEEE 802.11a/g/n Protocol with EDCA
- ADV, AODV, DSDV and DSR Routing Protocols
- Channel Models
- Traffic Flow Classification for QoS

Network Traffic Generators

- Linux-based Traffic Generators
 - Greedy TCP/UDP Traffic
 - Constant-bit-rate UDP Traffic
 - Scenario Playback UDP Traffic
 - User-defined Tx Pattern UDP Traffic
- EstiNet Module-based Traffic Generator
 - User-defined Tx Pattern and Packet Format Traffic

Emulation Mode

- An emulator builds a testing network field consisting of physical and virtual network devices. These two types of device can interact with each other for testing purposes.