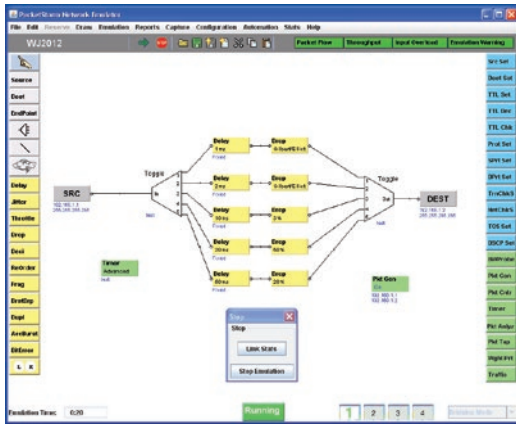**PacketStorm**™
Communications, Inc.

IP Network Emulator

Providing the Internet in a Box

The PacketStorm IP Network Emulators reproduce the unfavorable conditions of IP Networks and WANs in a controllable and repeatable lab setting.

The emulator recreates the dynamic behavior of the Internet such that any network model can be reproduced including those models that change with traffic, time or the behavior of another traffic flow.
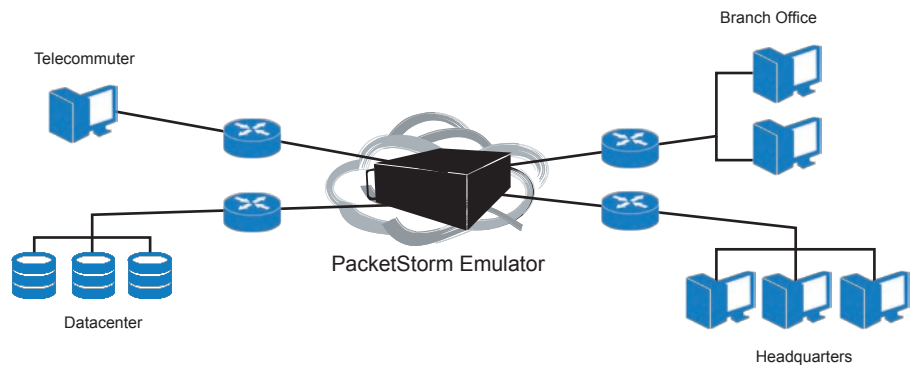
Features Overview

Supports a wide range of interfaces such as 10/100/1000 Ethernet, 10G Ethernet, T1 / E1, DS3, OC-3c, OC-12c and more...

Emulate dynamic time-varying network conditions by utilizing packet timer and/or packet counter triggers.

Supports data capture and replay to analyse, evaluate and emulate an IP network.

Supports IP Media applications emulation and impairments such as Accumulate and Burst, R-factor, MOS, Delayed factor, Media Loss Ratio statistics and MPEG-2 filtering.

Supports various routing modes such as IP routing, bridging, interface mapping and able to route packets between different interface types (Ethernet, ATM AL5, DS3, E1)

Telecommuter
Branch Office
Datacenter
PacketStorm Emulator
Headquarters

Packet Impairments	Packet Modifiers	Packet Filters	Network Interfaces
- Delay	- Source Address	- Source Address	- 10G Ethernet
- Jitter	- Destination Address	- Destination Address	- 10/100/1000
- Drop	- ToS	- Source Port	- Gigabit Ethernet
- Decimate	- DSCP	- Destination Port	- v.35
- Duplicate	- TTL (Set)	- Protocol	- HSSI
- Re-order	- TTL (Decrement)	- ToS	- T1 / E1
- Throttle	- TTL (Check)	- Diff Serv	- DS3
- Fragment	- Protocol	- DSCP	- X.21
- MTU	- Transport Checksum	- MPLS	- OC-3
- Burst Drop	- Network Checksum	- VLAN	- OC-12
- Sink	- Source Port	- Bit Pattern	- RS-232
- Accumulate & Burst	- Destination Port	- MAC Address	- EIA 530A
- Bit Error	- Fragment (Yes)	- Universal	- EIA 449
- MOS	- Fragment (No)	- PPPoE	
- Frame Relay	- MPLS	- MPEG-2	
- Insert Data	- VLAN		
- Delete Data	- MAC Address		**Statistics**
	- Universal		- Bandwidth
	- IPv6		- Delay
	- Pseudo Wire Ethernet		- Loss
	- RTP		- R-factor
	- MPEG-2		- MOS
	- MPEG-2 PCR		- Delayed Factor
			- Media Loss Rate
			- Bytes
			- Packets

ComWorth

Systems Overview

PacketStorm 4XG
4-ports Gigabit Ethernet, or 2-ports 10 Gigabit Ethernet

PacketStorm 6XG
(Emulator and Replicator / Modifier)
2 ports 10 GbE

PacketStorm Hurricane III
Superior performance, five interface slots, interfaces up to 10Gbps

PacketStorm Hurricane II
Superior performance, five interface slots, interfaces up to 1Gbps

PacketStorm Hurricane
Advance performance, five interface slots, interfaces up to 1Gbps

PacketStorm 8400E
Advance performance, four 10/100/1000 ports

PacketStorm 2600E
High bandwidth applications, five interface slots, interfaces up to 1Gbps

PacketStorm 1800E
Network edge applications, five interface slots, interfaces up to 155Mbps

PacketStorm 900E
Two or four 10/100 ports, or two 10/100/1000 ports

PacketStorm 400E
Two or four 10/100/1000 ports, or two or six ports Gigabit Ethernet SFP ports

PacketStorm 200E
Two 10/100/1000 ports

For inquiries and ordering information

ComWorth Solutions Pte. Ltd.
(Singapore)
TEL : +65-6748-2260
FAX : +65-6748-2267
E-MAIL : info@comworth.com.sg
URL : http://www.comworth.com.sg

Dynamic Emulation

The PacketStorm Emulator provides time-varying network conditions by utilizing packet timer and / or packet counter triggers. Each packet stream can have many different impairment event profiles for maximum emul ation flexibility. In addition, impairment and modifiers values can be changed "on-the-fly" during emulation.

Advance Filtering

Advance filters can address specific applications such as PPPoE, RTP, or MPEG-2. In addition, Bit Pattern and Universal Filters provides the capability to filter on any field anywhere in the packet. Multiple packets can be combined to create a filter.

Layer 2 to 7 Applications

The PacketStorm emulator impairs packets from Layer 2 to Layer 7 applications. Layer 2 applications includes ARPs and proprietary packets. Higher layer applications include Pseudo Wire Ethernet, RTP, MPEG-2, and PPPoE. In addition, the Universal Filter and Modifier can be used for any application.

Network Capture and Replay

The Network Capture and Replay provides the capability to analyze, evaluate, and emulate an IP network. The Network Capture reports the delays and packet-lost percentages between the source node and destination node. Network Replay duplicates the time varying network conditions that affect the delays and packet-lost percentages of the network. Captured values can be replayed on a packet by packet basis or a fixed time interval basis.

TIA-921 & ITU G.1050 Emulation

- TIA-921 Standard
- ITU G.1050 Recommendations
- Custom Test Suites
- Tcl Automation
- Integration with 3rd party test systems

The TIA-921 Standard and ITU G.1050 recommendations specify an IP network model that consists of impairment combinations that are scenario based, time varying IP network impariments that provide a significant sample of impairment conditions. IP streams from any type of network device can be evaluated using this model.

Broadcasting

Multiple Interface Steering steers packets to specified interface ports. A filter that includes the "steering active" destination steers packets to specified ports. Interface sterring overrides all routing modes (bridging, interface mapping, routing). Therefore, it is possible to broadcast packets to a number of ports.

System Security and Admin

The PacketStorm Emulator supports multiple accounts. Admin person grants different administrative permission to users. Permissions include system upgrade, remote GUI access, file transfer upload, and file download. System Security and Admin is included in the Multiple User Interface option.