

# Analyzer GIG Performance Results

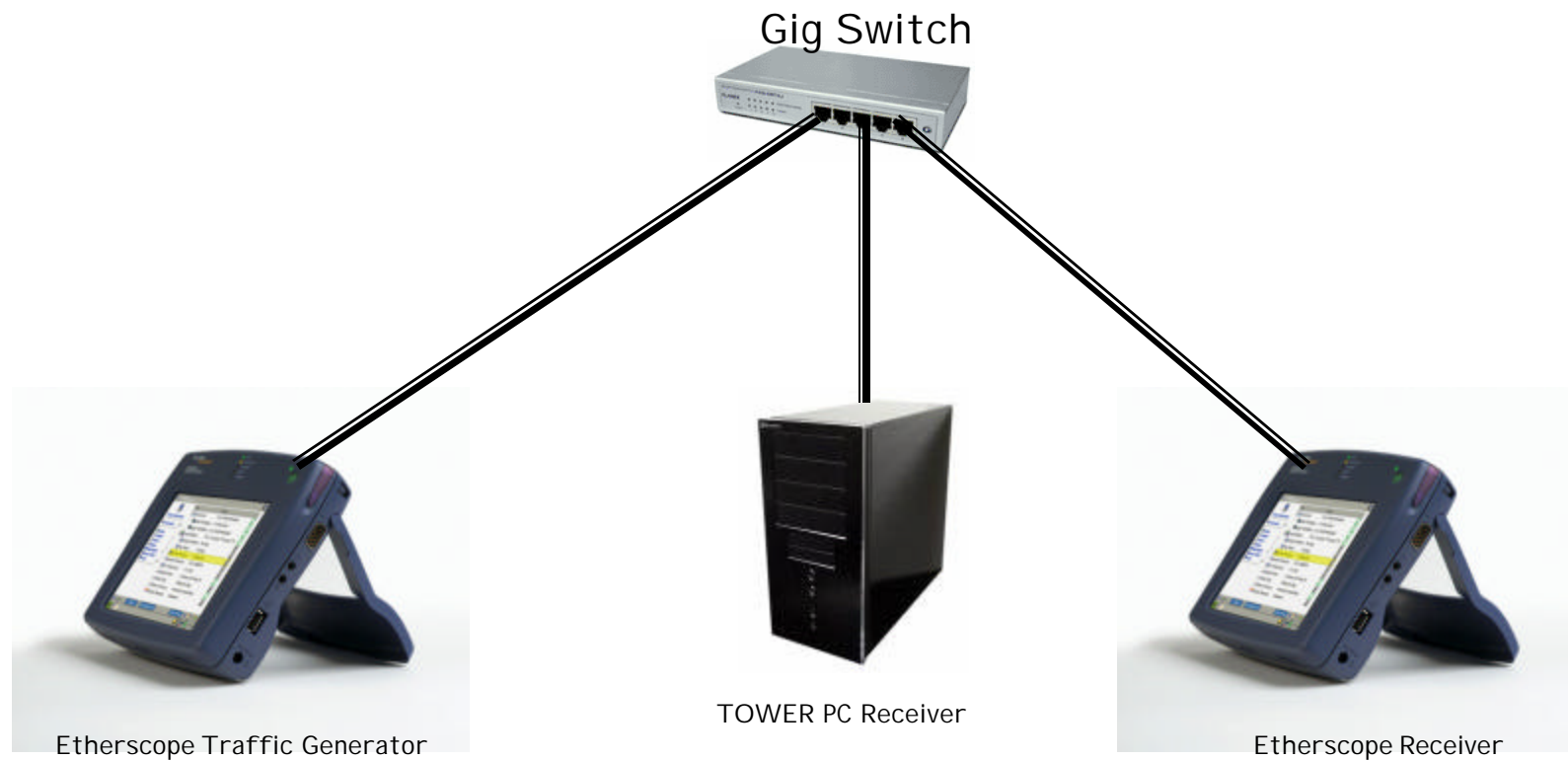
*Tony Fortunato & Ron Groulx*

- Many people ask why not use the combination of various PC hardware (Laptop/Desktop) and software when working with 1 Gb Ethernet (copper).
- Ron and myself thought it would be informative to document the efficiency of laptop or desktop hardware in combination of various software protocol analyzers.
- We separated our tests into two main categories; Monitor and Capture
  - ✓ Monitor only 'counts' the packets
  - ✓ Capture 'stores' the packets. Depending on the vendor, some populate an expert database.

## **PLEASE NOTE;**

- ***THAT THIS DOCUMENT IS ONLY MEANT TO ILLUSTRATE THE RESULTS OF VARIOUS HARDWARE AND SOFTWARE ANALYZERS.***
- ***IT IS NOT OUR INTENTION TO INFER THAT ONE ANALYZER SOFTWARE VENDOR IS ANY 'BETTER' THAN ANOTHER VENDOR.***
- ***WE ALSO UNDERSTAND THAT, DEPENDING ON SEVERAL VARIABLES, RESULTS MAY VARY.***

Enjoy



# Planex Switch Info



<b>Model Number</b>	FXG-05TXJ
<b>Access Method</b>	10/100/1000Mbps (CSMA/CD)
<b>Supported standards</b>	IEEE802.3 :10 BASE-T IEEE802.3u :100 BASE-TX IEEE802.3ab :1000 BASE-T IEEE802.x :Flow Control
<b>Supported Media</b>	UTP/STP Cable 10Mbps :Category 3 or greater 100Mbps :Category 5 or greater 1000Mbps :Enhanced Category 5 or greater
<b>Port Configuration</b>	10/100/1000BASE-T(RJ-45)x 5 ports *all ports support Auto MDI/MDI-X
<b>Data Transfer mode</b>	Store and forward
<b>Buffer Memory</b>	3.5Mb
<b>MAC Address</b>	4,000 entries
<b>Internal Bus Speed</b>	10Gbps
<b>Filtering/Forwarding Rate</b>	10M:14,881pps 100M:148,810pps 1000M:1,488,100pps
<b>Flow Control</b>	Full Duplex: IEEE802.3X, Half Duplex: Back Pressure
<b>Filtering/Forwarding Rate</b>	Wire Speed
<b>Jumbo Frames</b>	9K Bytes
<b>Power Supply</b>	AC adapter , DC5V 50/60Hz
<b>Power Consumption</b>	8.5W Max
<b>Operating Temperature</b>	0 ~ 40 °C
<b>Storage temperature</b>	-10 ~ 70 °C
<b>Operating Humidity</b>	10 % ~ 90 %( non- condensing )
<b>Dimension</b>	171(W) x 28(H) x 97(L)mm
<b>Weight</b>	500g
<b>EMI</b>	FCC Class A , CE Class A , VCCI Class A
<b>LED</b>	Power , Link/Act , 10M/100M/1000M
<b>Package Contents</b>	FXG-05TXJ, AC adapter (supplied with a short cord), rubber footpads

# Fluke Networks EtherScope™ Specs



Traffic generator (included with Internetwork Throughput Option)	
<b>Traffic type</b>	Broadcast, multicast or unicast
<b>Frame type</b>	Benign Ethernet, Benign LLC, NetBEUI, Benign IP, IP/ICMP Echo, IP/UDP Echo, IP/UDP Discard, IP/UDP Chargen, IP/UDP NFS, IP/UDP NetBIOS
<b>Frame size</b>	64, 128, 256, 512, 1024, 1280, 1518
<b>Rate</b>	Utilization (%): >0 – 100, Frames/second: 1 – 1488095
<b>Duration</b>	Seconds: 1 – continuous, Frames: 1 – continuous
Copper media (Wired/Pro models)	
<b>Cable types</b>	Unshielded twisted pair LAN cables (100 and 120 Ohm UTP) Foil-screened twisted pair LAN cables (100 and 120 Ohm ScTP)
<b>Cable length</b>	1 to 305 m (3 to 1000 ft), accuracy dependent upon the cable type selected
<b>Length resolution</b>	± [5% of reading + 1 m (3 ft)], with open, shorted, with wire map adapter, or terminated with reflection $\geq$ 20%
<b>Receive level</b>	100 to 5000 mVp-p
<b>Datalink signal</b>	500 to 4000 mVp-p
<b>Measuring terminated cables</b>	The Cable Verification feature tests the individual twisted-pairs of a cable that are terminated into most equipment vendor's Ethernet ports such as on a hub, switch or NIC. All cable tests other than WireView wire map and office locator ID are operational in the presence of datalink signal.
<b>Wiremapper/office locator compatibility</b>	Detects combinations of shorts, opens, and connector miswires. Compatible with Fluke Networks WireView wire map adapter/office locator.
<b>Fault tolerance</b>	The RJ-45 Ethernet connection on the analyzer is designed to withstand a maximum of 100 volts. The RJ-45 connection is not for connection of public telephone systems and should only be connected to the public phone network through regulatory agency compliant modem devices.

**Note: The EtherScope doesn't capture frames**

## **Operating System**

- Windows XP Professional Service Pack 2 (build 2600)

## **Processor**

- 1.80 gigahertz AMD Athlon 64
- 64 kilobyte primary memory cache
- 512 kilobyte secondary memory cache

## **Main Circuit Board**

- Board: ASUSTeK Computer INC. 'K8N-E-Deluxe' Rev 1
- Bus Clock: 200 megahertz
- BIOS: American Megatrends Inc. 1003.009 07/30/2004

## **Memory**

- 1024 Megabytes

## **Network Interface Card**

- D-Link DGE-530T Gigabit Ethernet Adapter

## **Configuration**

- All bindings and client services (MS file and print, IP) were disabled
- No firewall was in use

# DGE-530T GigaExpress 10/100/1000Mbps PCI Network Adapter



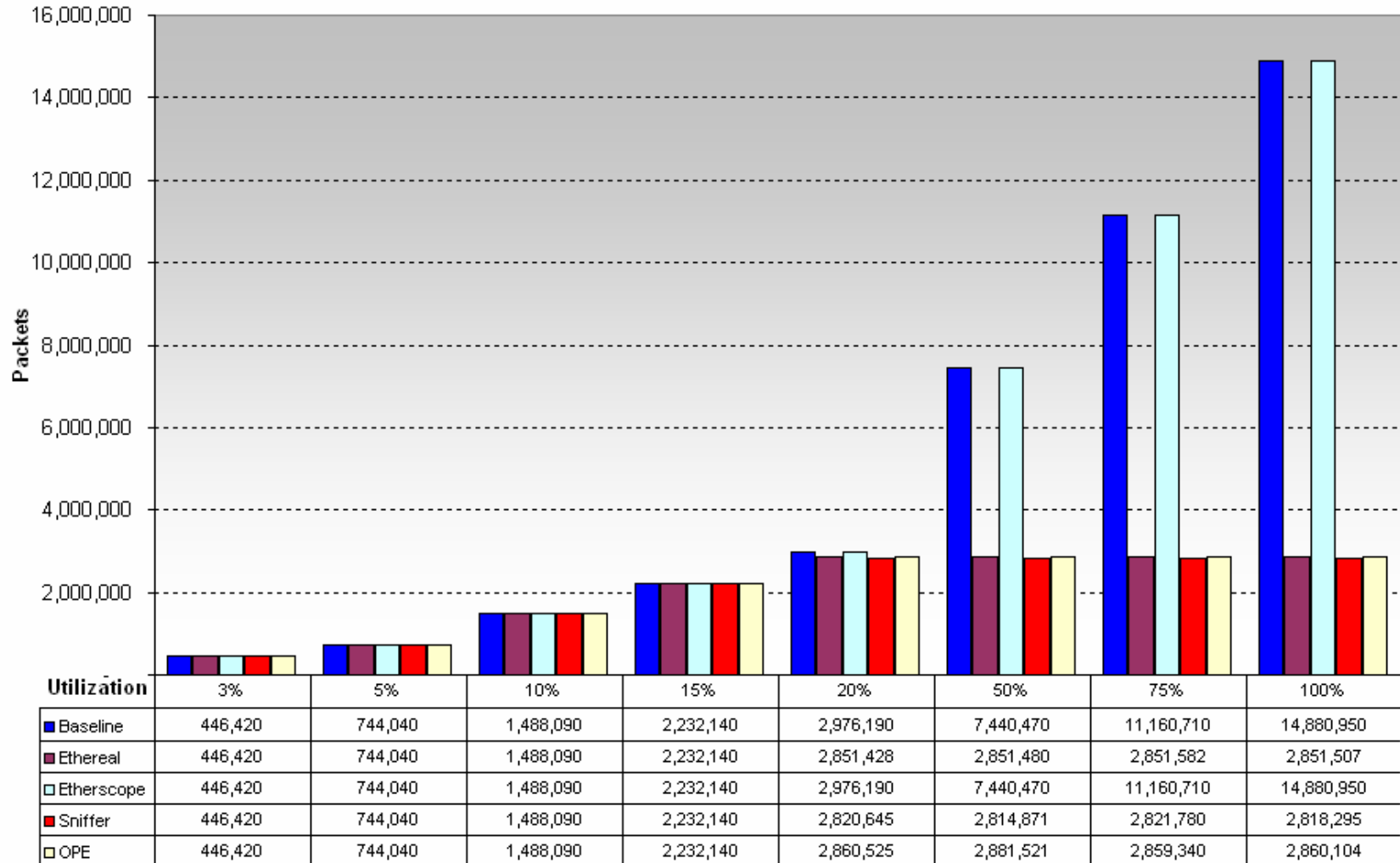
Technical Specifications	
<b>DGE-530T</b>	<ul style="list-style-type: none"><li>• Single Port 32bit/33mhz 10/100/1000Mbps PCI Adapter</li></ul>
<b>QoS</b>	<ul style="list-style-type: none"><li>• Support For 802.1p Priority Tagging</li></ul>
<b>VLANs</b>	<ul style="list-style-type: none"><li>• Support For 802.1q VLANs</li></ul>
<b>Cable Diagnostics</b>	<ul style="list-style-type: none"><li>• Advanced Cable Diagnostics (Windows Utility)</li></ul>
<b>Power Management</b>	<ul style="list-style-type: none"><li>• Wake-On-LAN (WoL) and ACPI 2.0</li></ul>
<b>Universal BUS Support</b>	<ul style="list-style-type: none"><li>• 3.3V and 5.0V</li></ul>
<b>PCI Local</b>	<ul style="list-style-type: none"><li>• BUS Master Supports 2.1/2.2</li></ul>
<b>Network Management</b>	<ul style="list-style-type: none"><li>• SNMPv1 Support</li></ul>
<b>Supported Operating Systems</b>	<ul style="list-style-type: none"><li>• Windows XP/ 2000/2003, Novell Netware 4.2/5.x/6.x, Red Hat Linux 7.3 &amp; Later (Kernel 2.4.18-3 and later)</li></ul>
Interface Options	
<b>RJ-45</b>	<ul style="list-style-type: none"><li>• 10BASE-T, 100BASE-TX &amp; 1000BASE-T</li></ul>
Network Management	
	<ul style="list-style-type: none"><li>• SNMPv1 &amp; Integrated Cable Diagnostics Control</li></ul>
Network Protocols and Standards	
<b>IEEE</b>	<ul style="list-style-type: none"><li>• 802.3 Ethernet, 802.3u Fast Ethernet, 802.3ab Gigabit Ethernet, 802.1p Priority Tagging, 802.1q VLANs, 802.3x Flow Control</li></ul>

- Network General Corporation - Sniffer Portable Version 4.8
- Fluke Networks - Protocol Expert Version 7.0.0.0
- Ethereal Version 0.10.14

# 64 Byte Monitor Results



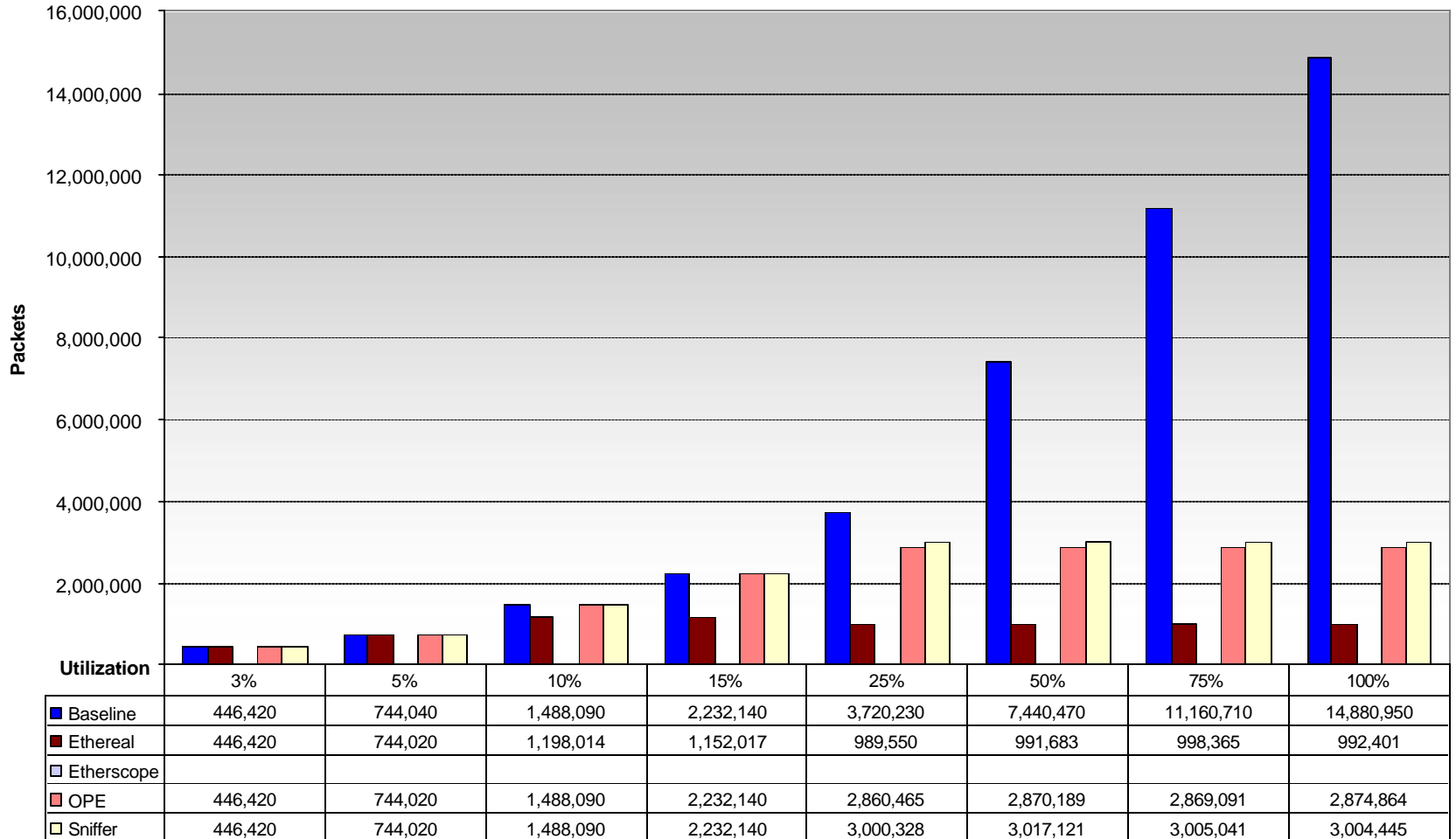
64 Byte Monitor Results



# 64 Byte Capture Results



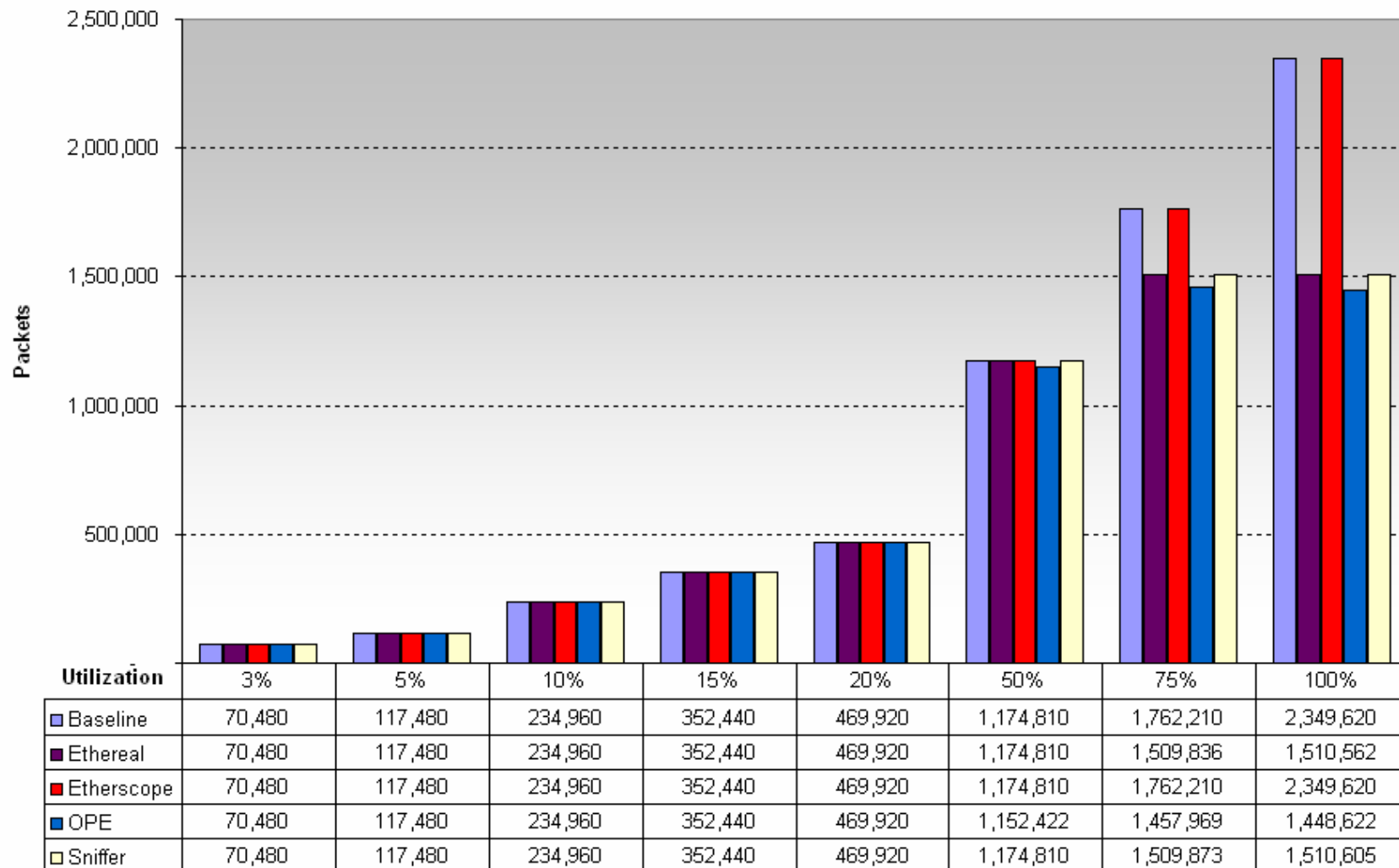
64 Byte Capture Results



# 512 Byte Monitor Results



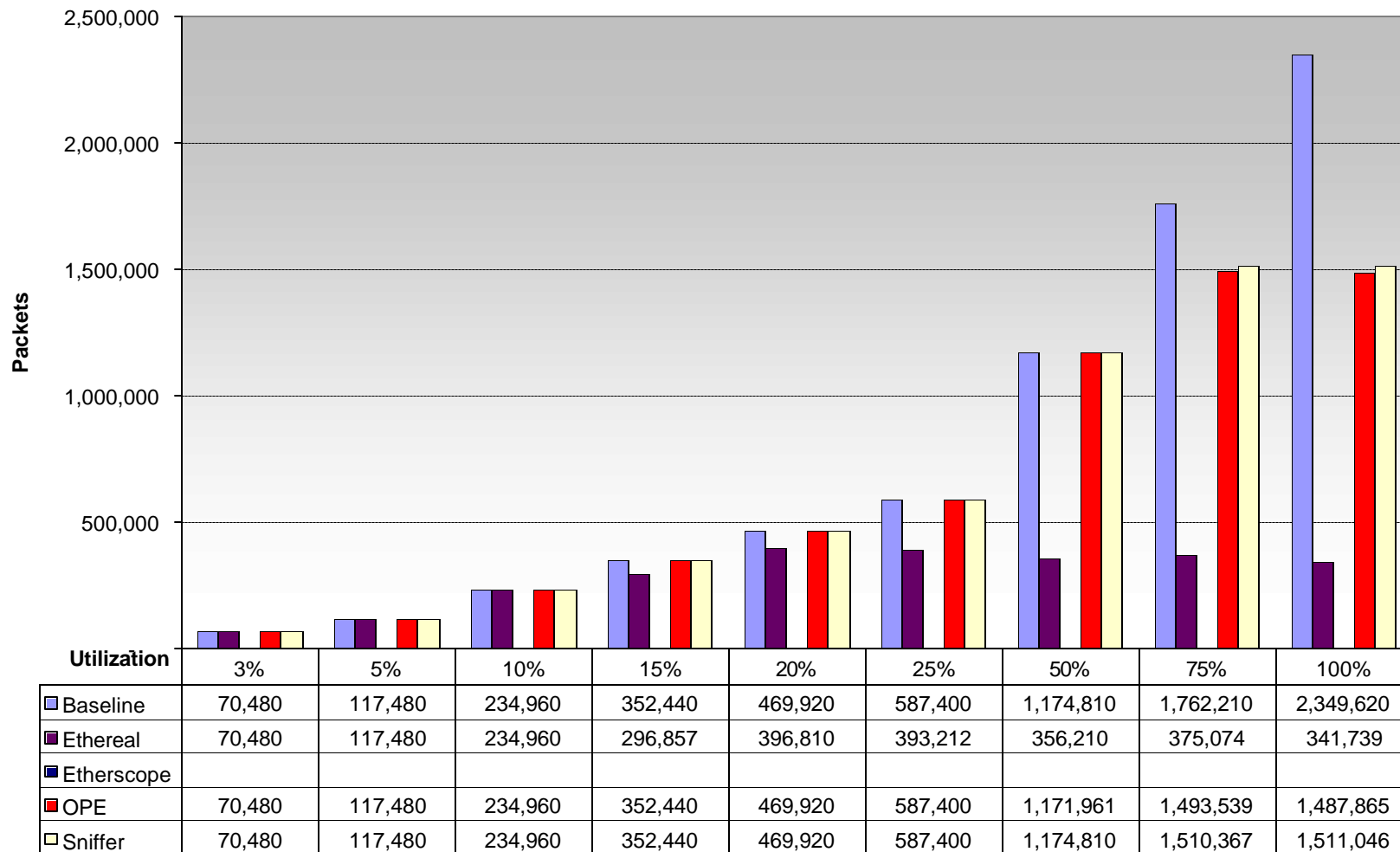
512 Byte Monitor Results



# 512 Byte Capture Results



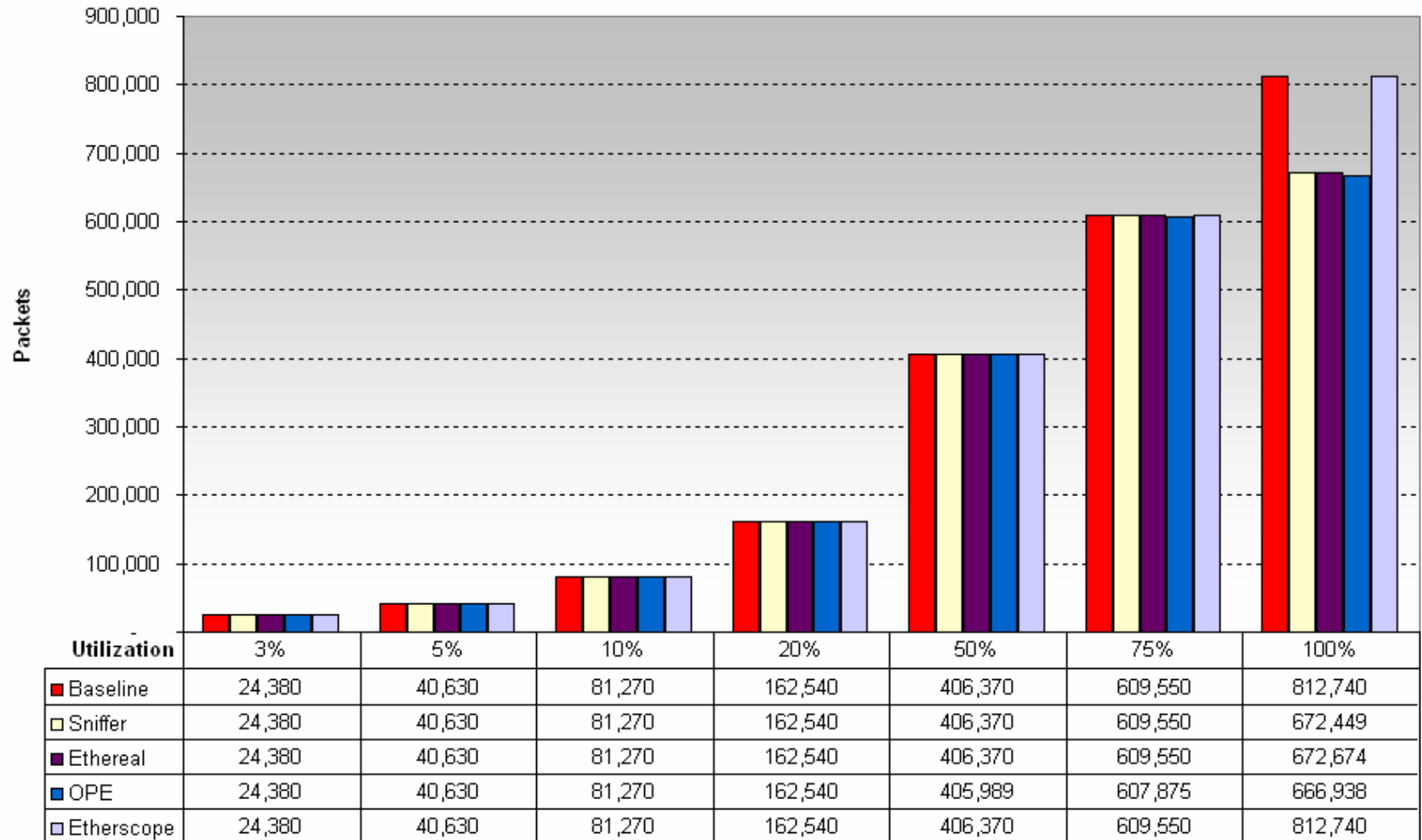
512 Byte Capture Results



# 1518 Byte Monitor Results



1518 Byte Monitor Results



# 1518 Byte Capture Results



1518 Byte Capture Results

