

OSI		PDU	Address	Hardware	Protocol																	TCP/IP
Application		Data	Logical Service	Client/ Server	RDP – 3389 - TCP ADGC-3269 (Over SSL) ADGC-3268-TCP/UDP RLOGIN (513) SMB – 445 - TCP HTTPS – 443 - TCP LDAP - 389 – TCP SNMP (161/162) IMAP - 143 - TCP W/IN RPC - 135 - TCP NTB Session -139-TCP NTB Datagram -138-UDP NTB Naming-137-UDP ONC RPC-111-TCP/UDP POP3 – 110 - TCP Kerberos – 88 - UDP HTTP - 80 - TCP DHCP - 67/68 - UDP DNS – 53 – UDP/TCP SMTP - 25 - TCP TELNEL – 23 - TCP SSH – 22 - TCP FTP - 20/21 - TCP																	Application
Presentation																						
Session																						
Transport		Segment	Ports		TCP (06) UDP (11) TLS																	Transport
Network		Packets	Logical IP/IPX	Router	IPv4 (0800) IPv6 (86DD) ICMP (01) ARP (0806)																	Internet
DataLink	MAC	Frames	MAC / Hardware Address	Switch Bridge NIC	Ethernet (802.3) VLAN (802.1Q) WLAN (802.11) HDLC, PPP																	Network Interface
	LLC																					
Physical		Bits	On/Off	Hub Repeater	CAT, OC, WAP																	

Layer 1		Layer 2 (Ethernet)			Layer 2 (VLAN – 802.1Q)			
Preamble	Start Frame Delimiter	Target MAC	Source MAC	Next Protocol	VLAN Tag (4 Bytes)		Next Protocol	
7 bytes	1 byte	6 bytes	6 bytes	2 bytes	Priority	CFI	VLAN ID	2 bytes
AA AA AA AA AA AA AA	AB = 11 Next bit Layer2	A1-B2-C3-D4-E5-F6	00-11-22-33-44-55	00-01 = ICMP 08-00 = IPv4 08-06 = ARP 81-00 = VLAN	3 bits	1 bit	12 bits	00-01 = ICMP 08-00 = IPv4 08-06 = ARP

Layer 3 (IP)								Layer 4 (UDP 11 - TCP 06)				
IP Ver	Header Length	Skip	TTL	Layer 4 Protocol	Skip	Source IP	Target IP	Source Port	Target Port	Skip	Header Length	Flags
1 nibble	1 nibble	7 bytes	1 byte	2 bytes	2 bytes	4 bytes	4 bytes	2 bytes	2 bytes	8 bytes	1 byte	1 byte
4/6	5x4=20	Bytes 2-8	64=UNIX 128=WIN 255=Cisco	06 =TCP 11 = UDP	Bytes 11-12	00-11-22-33	00-11-22-33	>1024 Client	<1024 Server	Bytes 5-12	Only use 1 st nibble	