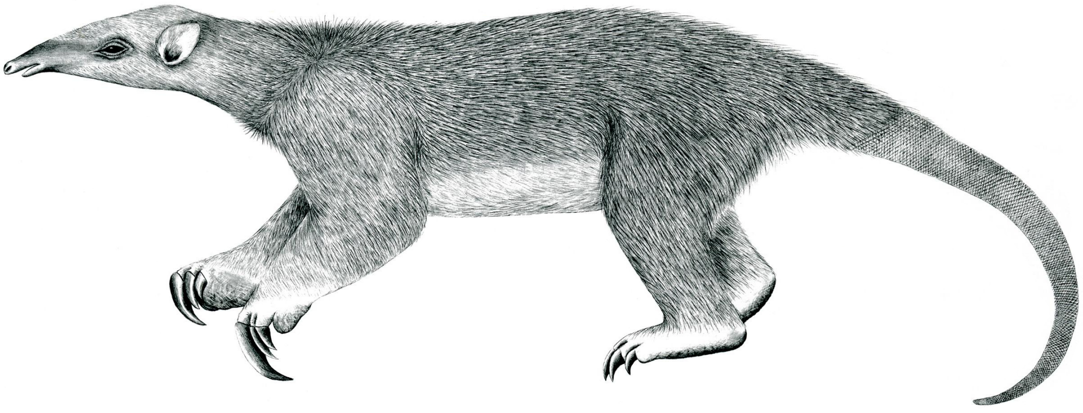
Tranalyzer2

arpDecode

Address Resolution Protocol (ARP)



Tranalyzer Development Team

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1.1 Description

The arpDecode plugin analyzes ARP traffic.

1.2 Dependencies

1.2.1 Core Configuration

This plugin requires the following core configuration:

- *$T2HOME/tranalyzer2/src/networkHeaders.h*:
  - `ETH_ACTIVATE>0`

1.3 Configuration Flags

The following flags can be used to control the output of the plugin:

Name	Default	Description
`ARP_MAX_IP`	10	Max. number of MAC/IP pairs to list [1 - 255]

1.4 Flow File Output

The arpDecode plugin outputs the following columns:

Column	Type	Description
`arpStat`	H8	Status
`arpHwType`	U16	Hardware type
`arpOpcode`	H16	Operational code
`arpIpMacCnt`	U16	Number of distinct MAC / IP pairs
`arpMac_Ip_Cnt`	R(MAC_IP4_U16)	MAC/IP pairs found and number of times the pair appeared (a count of zero may appear in case of ARP spoofing and indicate the pair was discovered in a different flow)

1.4.1 arpStat

The `arpStat` column is to be interpreted as follows:

arpStat	Description
`0x01`	ARP detected
`0x02`	Gratuitous ARP (sender IP same as target IP)
`0x04`	ARP Probe
`0x08`	ARP Announcement
`0x10`	—

arpStat	Description
0x20	MAC/IP list truncated... increase ARP_MAX_IP
0x40	—
0x80	ARP spoofing (same MAC assigned to multiple IPs)

1.4.2 arpHwType

The arpHwType column is to be interpreted as follows:

Type	Description
1	Ethernet
2	Experimental Ethernet
3	Amateur Radio AX.25
4	Proteon ProNET Token Ring
5	Chaos
6	IEEE 802
7	ARCNET
8	Hyperchannel
9	Lanstar
10	Autonet Short Address
11	LocalTalk
12	LocalNet (IBM PCNet or SYTEK LocalNET)
13	Ultra link
14	SMDS
15	Frame Relay
16	ATM (Asynchronous Transmission Mode)
17	HDLC
18	Fibre Channel

Type	Description
19	ATM (Asynchronous Transmission Mode)
20	Serial Line
21	ATM (Asynchronous Transmission Mode)
22	MIL-STD-188-220
23	Metricom
24	IEEE 1394.1995
25	MAPOS
26	Twinaxial
27	EUI-64
28	HIPARP
29	IP and ARP over ISO 7816-3
30	ARPSec
31	IPsec tunnel
32	Infiniband
33	CAI (TIA-102 Project 25 Common Air Interface)
34	Wiegand Interface
35	Pure IP

1.4.3 arpOpcode

The arpOpcode column is to be interpreted as follows:

arpOpcode		Description
2^0	(=0x0001)	—
2^1	(=0x0002)	ARP Request
2^2	(=0x0004)	ARP Reply
2^3	(=0x0008)	Reverse ARP (RARP) Request
2^4	(=0x0010)	Reverse ARP (RARP) Reply
2^5	(=0x0020)	Dynamic RARP (DRARP) Request
2^6	(=0x0040)	Dynamic RARP (DRARP) Reply
2^7	(=0x0080)	Dynamic RARP (DRARP) Error

arpOpcode		Description
2^8	(=0x0100)	Inverse ARP (InARP) Request
2^9	(=0x0200)	Inverse ARP (InARP) Reply
2^{10}	(=0x0400)	ARP NAK
2^{11}	(=0x0800)	—
2^{12}	(=0x1000)	—
2^{13}	(=0x2000)	—
2^{14}	(=0x4000)	—
2^{15}	(=0x8000)	—

1.5 Packet File Output

In packet mode (`-s` option), the arpDecode plugin outputs the following columns:

Column	Type	Description
`arpStat`	H8	Status
`arpHwType`	U16	Hardware type
`arpProtoType`	H16	Protocol type
`arpHwSize`	U8	Hardware size
`arpProtoSize`	U8	Protocol size
`arpOpcode`	U16	Operational code
`arpSenderMAC`	MAC	Sender MAC address
`arpSenderIP`	IP4	Sender IP address
`arpTargetMAC`	MAC	Target MAC address
`arpTargetIP`	IP4	Target IP address

1.6 Monitoring Output

In monitoring mode, the arpDecode plugin outputs the following columns:

Column	Type	Description
`arpStat`	H8	Status

1.7 Plugin Report Output

The following information is reported:

- Aggregated `arpStat`