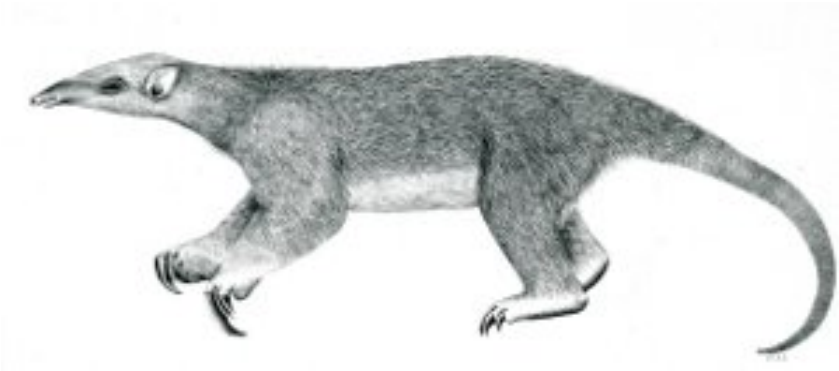
Tranalyzer2

radiusDecode

RADIUS



Tranalyzer Development Team

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1.1 Description

The radiusDecode plugin analyzes RADIUS traffic.

1.2 Configuration Flags

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

Name	Default	Description
RADIUS_DBG	0	Whether (1) or not (0) to print debug messages
RADIUS_NAS	1	Whether (1) or not (1) to output NAS info
RADIUS_FRAMED	1	Whether (1) or not (0) to output framed info
RADIUS_TUNNEL	1	Whether (1) or not (0) to output tunnel info
RADIUS_ACCT	1	Whether (1) or not (0) to output accounting info

1.3 Flow File Output

The radiusDecode plugin outputs the following columns:

Column	Type	Description
radiusStat	H8	Status
radiusAxsReq_Acc_Rej_Chal	4xU16	Access-Request/Accept/Reject/Challenge
radiusAccReq_Resp	U16_U16	Accounting-Request/Response
radiusAccStart_Stop	U16_U16	Accounting Start/Stop
radiusUser	S	Username
radiusServiceTyp	U32	Service type
radiusLoginService	U32	Login-Service
radiusVendor	U32	Vendor Id (SMI)

If RADIUS_NAS=1, the following columns are displayed:

radiusNasId	S	NAS Identifier
radiusNasIp	IP4	NAS IP address
radiusNasPort	U32	NAS IP port
radiusNasPortTyp	U32	NAS port type
radiusNasPortId	S	NAS port Id

If RADIUS_FRAMED=1, the following columns are displayed:

radiusFramedIp	IP4	Framed IP address
radiusFramedMask	IP4	Framed IP netmask
radiusFramedProto	U32	Framed protocol
radiusFramedComp	U32	Framed compression
radiusFramedMtu	U32	Framed MTU

Column	Type	Description
If RADIUS_TUNNEL=1, the following columns are displayed:		
radiusTunnel_Medium	U32_U32	Tunnel type and medium type
radiusTunnelCli	S	Tunnel client endpoint
radiusTunnelSrv	S	Tunnel server endpoint
radiusTunnelCliAId	S	Tunnel client authentication Id
radiusTunnelSrvAId	S	Tunnel server authentication Id
radiusTunnelPref	S	Tunnel preference
If RADIUS_ACCT=1, the following columns are displayed:		
radiusAcctSessId	S	Accounting session Id
radiusAcctSessTime	U32	Accounting session time (seconds)
radiusAcctStatTyp	U32	Accounting status type
radiusAcctTerm	U32	Accounting terminate cause
radiusAcctInOct_OutOct	U32_U32	Accounting input/output octets
radiusAcctInPkt_OutPkt	U32_U32	Accounting input/output packets
radiusAcctInGw_OutGw	U32_U32	Accounting input/output gigawords
radiusConnInfo	S	User connection info
radiusFilterId	S	Filter Identifier
radiusCalledId	S	Called Station Identifier
radiusCallingId	S	Calling Station Identifier
radiusReplyMsg	S	Reply message

1.3.1 radiusStat

The radiusStat column is to be interpreted as follows:

radiusStat	Description
2^0 (=0x01)	Flow is RADIUS
2^0 (=0x02)	Authentication and configuration traffic
2^0 (=0x04)	Accounting traffic
2^2 (=0x10)	Connection successful
2^1 (=0x20)	Connection failed
2^7 (=0x80)	Malformed packet

1.3.2 radiusServiceTyp

The radiusServiceTyp column is to be interpreted as follows:

radiusServiceTyp	Description
1	Login
2	Framed
3	Callback Login

radiusServiceTyp	Description
4	Callback Framed
5	Outbound
6	Administrative
7	NAS Prompt
8	Authenticate Only
9	Callback NAS Prompt
10	Call Check
11	Callback Administrative
12	Voice
13	Fax
14	Modem Relay
15	IAPP-Register
16	IAPP-AP-Check
17	Authorize Only
18	Framed-Management
19	Additional-Authorization

1.3.3 radiusLoginService

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

radiusLoginService	Description
0	Telnet
1	Rlogin
2	TCP Clear
3	PortMaster (proprietary)
4	LAT
5	X25-PAD
6	X25-T3POS
7	Unassigned
8	TCP Clear Quiet (suppresses any NAS-generated connect string)

1.3.4 radiusVendor

The `radiusVendor` column represents the SMI Network Management Private Enterprise Codes which can be found at https://www.iana.org/assignments/enterprise-numbers. Alternatively use `grep` on the file `vendor.txt` as follows: `grep id vendor.txt`, where `id` is the actual Id reported by Tranalyzer, e.g., 4874 for Juniper.

1.3.5 radiusNasPortTyp

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

radiusNasPortTyp	Description
0	Async
1	Sync

radiusNasPortTyp	Description
2	ISDN Sync
3	ISDN Async V.120
4	ISDN Async V.110
5	Virtual
6	PIAFS
7	HDLC Clear Channel
8	X.25
9	X.75
10	G.3 Fax
11	SDSL - Symmetric DSL
12	ADSL-CAP - Asymmetric DSL, Carrierless Amplitude Phase Modulation
13	ADSL-DMT - Asymmetric DSL, Discrete Multi-Tone
14	IDSL - ISDN Digital Subscriber Line
15	Ethernet
16	xDSL - Digital Subscriber Line of unknown type
17	Cable
18	Wireless - Other
19	Wireless - IEEE 802.11
20	Token-Ring
21	FDDI
22	Wireless - CDMA2000
23	Wireless - UMTS
24	Wireless - 1X-EV
25	IAPP
26	FTTP - Fiber to the Premises
27	Wireless - IEEE 802.16
28	Wireless - IEEE 802.20
29	Wireless - IEEE 802.22
30	PPPoA - PPP over ATM
31	PPPoEoA - PPP over Ethernet over ATM
32	PPPoEoE - PPP over Ethernet over Ethernet
33	PPPoEoVLAN - PPP over Ethernet over VLAN
34	PPPoEoQinQ - PPP over Ethernet over IEEE 802.1QinQ
35	xPON - Passive Optical Network
36	Wireless - XGP
37	WiMAX Pre-Release 8 IWK Function
38	WIMAX-WIFI-IWK: WiMAX WIFI Interworking
39	WIMAX-SFF: Signaling Forwarding Function for LTE/3GPP2
40	WIMAX-HA-LMA: WiMAX HA and or LMA function
41	WIMAX-DHCP: WiMAX DCHP service
42	WIMAX-LBS: WiMAX location based service
43	WIMAX-WVS: WiMAX voice service

1.3.6 radiusFramedProto

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

radiusFramedProto	Description
1	PPP
2	SLIP
3	AppleTalk Remote Access Protocol (ARAP)
4	Gandalf proprietary SingleLink/MultiLink protocol
5	Xylogics proprietary IPX/SLIP
6	X.75 Synchronous
7	GPRS PDP Context

1.3.7 radiusFramedComp

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

radiusFramedComp	Description
0	None
1	VJ TCP/IP header compression
2	IPX header compression
3	Stac-LZS compression

1.3.8 radiusTunnel_Medium

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

radiusTunnel	Description
1	Point-to-Point Tunneling Protocol (PPTP)
2	Layer Two Forwarding (L2F)
3	Layer Two Tunneling Protocol (L2TP)
4	Ascend Tunnel Management Protocol (ATMP)
5	Virtual Tunneling Protocol (VTP)
6	IP Authentication Header in the Tunnel-mode (AH)
7	IP-in-IP Encapsulation (IP-IP)
8	Minimal IP-in-IP Encapsulation (MIN-IP-IP)
9	IP Encapsulating Security Payload in the Tunnel-mode (ESP)
10	Generic Route Encapsulation (GRE)
11	Bay Dial Virtual Services (DVS)
12	IP-in-IP Tunneling
13	Virtual LANs (VLAN)

radiusMedium	Description
1	IPv4 (IP version 4)
2	IPv6 (IP version 6)
3	NSAP
4	HDLC (8-bit multidrop)
5	BBN 1822

radiusMedium	Description
6	802 (includes all 802 media plus Ethernet “canonical format”)
7	E.163 (POTS)
8	E.164 (SMDS, Frame Relay, ATM)
9	F.69 (Telex)
10	X.121 (X.25, Frame Relay)
11	IPX
12	Appletalk
13	Decnet IV
14	Banyan Vines
15	E.164 with NSAP format subaddress

1.3.9 radiusAcctStatTyp

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

radiusAcctStatTyp	Description
1	Start
2	Stop
3	Interim-Update
7	Accounting-On
8	Accounting-Off
9	Tunnel-Start
10	Tunnel-Stop
11	Tunnel-Reject
12	Tunnel-Link-Start
13	Tunnel-Link-Stop
14	Tunnel-Link-Reject
15	Failed

1.3.10 radiusAcctTerm

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

radiusAcctTerm	Description
1	User Request
2	Lost Carrier
3	Lost Service
4	Idle Timeout
5	Session Timeout
6	Admin Reset
7	Admin Reboot
8	Port Error
9	NAS Error
10	NAS Request
11	NAS Reboot

radiusAcctTerm	Description
12	Port Unneeded
13	Port Preempted
14	Port Suspended
15	Service Unavailable
16	Callback
17	User Error
18	Host Request
19	Supplicant Restart
20	Reauthentication Failure
21	Port Reinitialized
22	Port Administratively Disabled
23	Lost Power

1.4 Plugin Report Output

The number of RADIUS, Access, Access-Accept, Access-Reject and Accounting packets is reported.

1.5 References

- RFC2865: Remote Authentication Dial In User Service (RADIUS)
- RFC2866: RADIUS Accounting
- RFC2867: RADIUS Accounting Modifications for Tunnel Protocol Support
- RFC2868: RADIUS Attributes for Tunnel Protocol Support
- RFC2869: RADIUS Extensions
- https://www.iana.org/assignments/radius-types/radius-types.xhtml