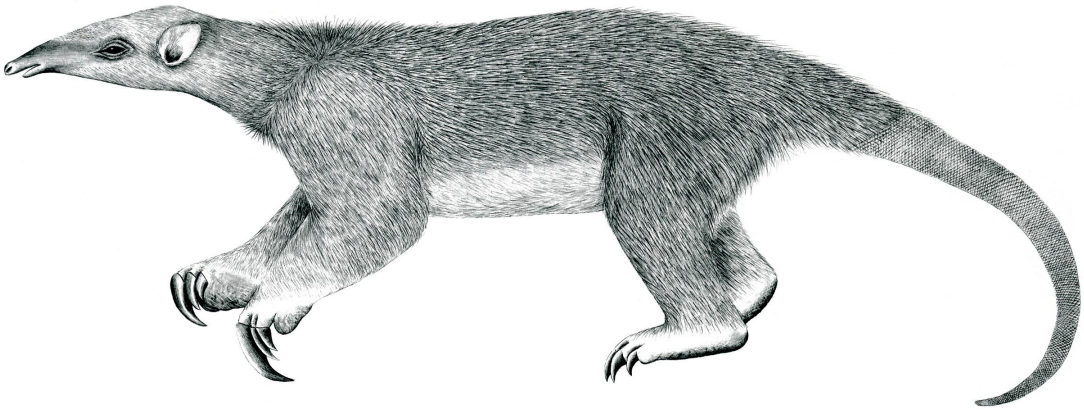
Tranalyzer2

stpDecode

Spanning Tree Protocol (STP)



Tranalyzer Development Team

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1.1 Description

The stpDecode plugin analyzes STP 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	Flags
`STP_RTPREXT`	1	1: Priority Extension MAC, 0: BID hex	

1.4 Flow File Output

The stpDecode plugin outputs the following columns:

Column	Type	Description	Flags
`stpStat`	H8	Status	
`stpVer`	U8	Protocol version identifier	
`stpType`	H8	Aggregated BPDU types	
`stpFlags`	H8	Aggregated BPDU flags	
`stpRtCst`	U32	Root cost	
`stpRtBID`	H64	Root bridge ID	`STP_RTPREXT=0`
`stpRtPrio`	U16	Root priority	`STP_RTPREXT=1`
`stpRtExt`	U16	Root extension (VLAN)	`STP_RTPREXT=1`
`stpRtMAC`	MAC	Root MAC	`STP_RTPREXT=1`
`stpBrdgID`	H64	Bridge ID	`STP_RTPREXT=0`
`stpBrdgPrio`	U16	Bridge priority	`STP_RTPREXT=1`
`stpBrdgExt`	U16	Bridge extension (VLAN)	`STP_RTPREXT=1`
`stpBrdgMAC`	MAC	Bridge MAC	`STP_RTPREXT=1`
`stpFrwrd`	U16	Forward delay	

1.4.1 stpStat

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

stpStat	Description
0x01	Flow is STP

1.4.2 stpProto

The stpProto column is to be interpreted as follows:

stpProto	Description
0x0000	Spanning Tree Protocol

1.4.3 stpVer

The stpVer column is to be interpreted as follows:

stpVer	Description
0	Spanning Tree
2	Rapid Spanning Tree
3	Multiple Spanning Tree
4	Shortest Path Tree

1.4.4 stpType

The stpType column is to be interpreted as follows:

stpType	Description
0x00	Configuration BPDU or TCN BPDU
0x02	Rapid/Multiple Spanning Tree
0x80	Topology Change Notification (TCN) BPDU

1.4.5 stpFlags

The stpFlags column is to be interpreted as follows:

	stpFlags	Description
2^0	(=0x01)	Topology Change
2^1	(=0x02)	Proposal
2^2	(=0x04)	Port Role: 0x00: Unknown, 0x10: Alternate or Backup, 0x20: Root, 0x30: Designated
2^3	(=0x08)	
2^4	(=0x10)	Learning
2^5	(=0x20)	Forwarding
2^6	(=0x40)	Agreement
2^7	(=0x80)	Topology Change Acknowledgment

1.5 Packet File Output

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

Column	Type	Description	Flags
stpStat	H8	Status	
stpProto	H16	Protocol identifier	
stpVer	U8	Protocol version identifier	
stpType	H8	BPDU type	
stpFlags	H8	BPDU flags	
stpRtCst	U32	Root cost	
stpRtBID	H64	Root bridge ID	STP_RTPREXT=0
stpRtPrio	U16	Root priority	STP_RTPREXT=1
stpRtExt	U16	Root extension (VLAN)	STP_RTPREXT=1
stpRtMAC	MAC	Root MAC	STP_RTPREXT=1
stpBrdgID	H64	Bridge BID	STP_RTPREXT=0
stpBrdgPrio	U16	Bridge priority	STP_RTPREXT=1
stpBrdgExt	U16	Bridge extension (VLAN)	STP_RTPREXT=1
stpBrdgMAC	MAC	Bridge MAC	STP_RTPREXT=1
stpPort	H16	Port identifier	
stpMsgAge	U16	Message age	
stpMaxAge	U16	Max age	

Column	Type	Description	Flags
stpHello	U16	Hello time	
stpFrwrd	U16	Forward delay	
stpPvstOrigVlan	U16	Originating VLAN (PVSTP+)	

1.6 Monitoring Output

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

Column	Type	Description	Flags
stpPkts	U64	Number of STP packets	

1.7 Plugin Report Output

The following information is reported:

- Aggregated stpStat
- Aggregated BPDU stpType
- Aggregated BPDU stpFlags
- Number of STP packets