

Computer Network Assignment #2

Cenhan Du

September 2020

1 Problem 2,1

1.1 a

(i) root bridge: B1

root ports:

P2.2

P3.1

P4.2

P5.1

P6.1

P7.1

P8.2

(ii) designated ports:

P1.1 Segment B

P1.2 Segment D

P1.3 Segment J

P4.1 Segment A

P3.3 Segment F

P2.3 Segment E

P4.3 Segment H

P2.1 Segment C

P7.2 Segment I

P6.2 Segment G

P2.4 Segment L

P8.3 Segment K

(iii) blocked ports:

P3.2

P5.3

P5.2

P8.1

P6.3

1.2 b

(i)root bridge: B2

root ports:

P3.2

P4.1

P5.1

P6.1

P7.1

P8.1

(ii)designated ports:

Segment A P3.1

Segment B no ports

Segment C P2.1

Segment D no ports

Segment E P2.3

Segment F P3.3

Segment G P6.2

Segment H P4.3

Segment I P5.3

Segment J no ports

Segment K P6.3

Segment L P2.4

(iii)blocked ports:

P5.2

P7.2

P8.3

2 Problem 2.2

2.1 a

106280 packets and 19689056 Bytes have been captured.

52,837 packets and 6.826 k Bytes have been broadcasted.

49.71% packets and 34.67% Bytes.

2.2 b

Source: Cisco_80:d5:55 (00:0c:30:80:d5:55).

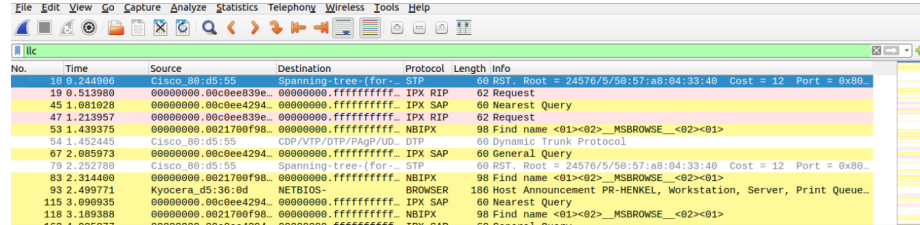
Destination: Spanning-tree-(for-bridges)_00 (01:80:c2:00:00:00).

The packets are sent every two seconds.

Bridge Identifier: 32768 / 5 / 00:0c:30:80:d5:40.

2.3 c

Yes, except for STP, there are many other protocols that use LLC encapsulation, as shown below in the screenshot.



The screenshot shows a Wireshark packet capture with the following data:

No.	Time	Source	Destination	Protocol	Length	Info
10	0.244900	Cisco_88:d5:55	Spanning-tree-for-	STP	60	RST, Root = 24576/5/50:57:a8:04:33:40 Cost = 12 Port = 0x80...
19	0.513980	00000000.00c0ee839e..	00000000.ffffffffffff..	IPX RIP	62	Request
45	1.081028	00000000.00c0ee4294..	00000000.ffffffffffff..	IPX SAP	60	Nearest Query
47	1.213957	00000000.00c0ee839e..	00000000.ffffffffffff..	IPX RIP	62	Request
53	1.439375	00000000.0021700f98..	00000000.ffffffffffff..	NBIPX	98	Find name <01><02>_MSBROWSE_<02><01>
54	1.452445	Cisco_88:d5:55	CDP/VTP/DTP/PagP/UD..	DTP	60	Dynamic Trunk Protocol
67	2.085973	00000000.00c0ee4294..	00000000.ffffffffffff..	IPX SAP	60	General Query
79	2.252768	Cisco_88:d5:55	Spanning-tree-for-	STP	60	RST, Root = 24576/5/50:57:a8:04:33:40 Cost = 12 Port = 0x80...
83	2.314480	00000000.0021700f98..	00000000.ffffffffffff..	NBIPX	98	Find name <01><02>_MSBROWSE_<02><01>
93	2.499771	Kyocera_d5:36:0d	NETBIOS-	BROWSER	186	Host Announcement PR-HENKEL, Workstation, Server, Print Queue...
115	3.090935	00000000.00c0ee4294..	00000000.ffffffffffff..	IPX SAP	60	Nearest Query
118	3.189388	00000000.0021700f98..	00000000.ffffffffffff..	NBIPX	98	Find name <01><02>_MSBROWSE_<02><01>

Figure 1: LLC encapsulation