

6.2.2.

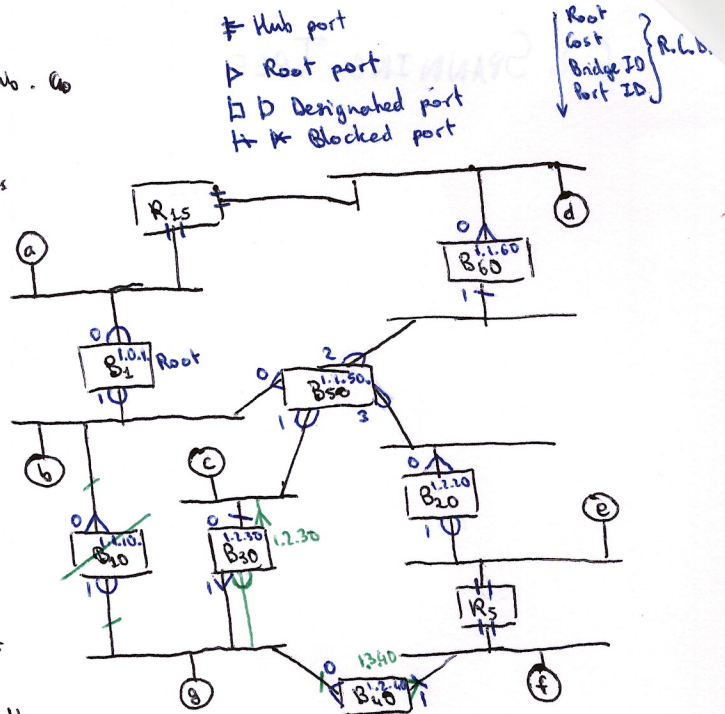
In this network, B_x is a bridge and R_x is a Hub. C_b

Consider:

- All LANs use Eth (802.3) with same capacity links
- The device number x is its ID
- Learning bridges used
- Circles are end nodes

Answer:

- Represent protocol arch. of each component
- Detail which nodes share CD
- Which nodes share BD
- Compute the Spanning Tree
- Compute fwd tables in stable state
- ~~Describe path of $A \rightarrow C$ and $A \rightarrow E$ after stable state~~
- Assume B_{10} fails. Re-compute STP & fwd tables.
- Detail path of frames $A \rightarrow E$ after (f)



a) R_x : Physical layer: ~~Phy~~ Phy (Reg(hub))

B_x : DataLink layer: Bridge Data Link Phy

Nodes: full stack

b) (a, d), (b), (c), ~~(e, f)~~, (g), (), ()

c) (all)

d) * see diagram

e)

B1		B10		B20		B30		B40		B50		B60	
M	P	M	P	M	P	M	P	M	P	M	P	M	P
a	0	a	0	a	0	a	1	a	0	a	0	a	0
b	1	b	0	b	0	b	1	b	0	b	0	b	0
c	1	c	0	c	0	c	1	c	0	c	1	c	0
d	0	d	0	d	0	d	1	d	0	d	0	d	0
e	1	e	0	e	1	e	1	e	0	e	3	e	0
f	1	f	0	f	1	f	1	f	0	f	3	f	0
g	1	g	1	g	0	g	1	g	0	g	0	g	0

f)

B1		B10		B20		B30		B40		B50		B60	
M	P	M	P	M	P	M	P	M	P	M	P	M	P
a	0	a	0	a	0	a	0	a	1	a	0	a	0
b	1	b	0	b	0	b	0	b	1	b	0	b	0
c	1	c	0	c	0	c	0	c	1	c	1	c	0
d	0	d	0	d	0	d	0	d	1	d	0	d	0
e	1	e	0	e	1	e	0	e	1	e	3	e	0
f	1	f	0	f	1	f	0	f	1	f	3	f	0
g	1	g	1	g	0	g	1	g	1	g	0	g	0

(see diagram changes)

g) $A \rightarrow E$: ~~$a \rightarrow B_{10} \rightarrow B_{11} \rightarrow B_{20} \rightarrow B_{30} \rightarrow B_{40} \rightarrow B_{50} \rightarrow B_{60} \rightarrow B_{21} \rightarrow e$~~
 $a \rightarrow B_{10} \rightarrow B_{11} \rightarrow B_{20} \rightarrow B_{30} \rightarrow B_{40} \rightarrow B_{50} \rightarrow B_{60} \rightarrow B_{21} \rightarrow e$