

Exercise – SAP Encapsulation

Ref: NRS-II, section 18.2
SA Module 2, section 1

Due: Wed Mar 22 @ 3pm

Carefully examine the chart below. It lists 9 different combinations of Subscriber and Service Provide port / SAP encapsulations. You are not allowed to change any of them!

1. You must determine the correct SAP definition for the PE routers at each end of the service. The SAP definition must:
 - be broad enough to **guarantee** that **all** Subscriber traffic passes through
 - be as restrictive as possible, so that **only** that Subscriber's traffic passes (Hint: you may not always be able to get a perfect match.)
2. After you've determined the SAP definition, then determine the number of VLAN tags that will be stripped while the frame is in transit, ie. 0 – 2
3. Submit your answers on Blackboard before the due date.

Remember, you have several general choices for each SAP definition:

- a SAP with specifically defined tags
- the default SAP (dot1Q = port:*) or the wildcard SAP (QinQ = port:x.*)
- a NULL SAP (dot1Q = port:0 or QinQ = port:0.*) or NULL Bottom SAP (QinQ = port:x.0)

	CE Network port (end A)	PE SAP (end A) eg. sap 1/1/1(:?) (.?)	#Tag(s) stripped	PE SAP (end B) eg. sap 1/1/1(:?) (.?)	CE Network port (end B)
1	Dot1q 1/1/1:1	Null		Null	Dot1q 1/1/1:1
2	QinQ 1/1/1:10.20	Null		Null	QinQ 1/1/1:10.20
3	Null 1/1/1	Dot1q		Dot1q	Null 1/1/1
4	Dot1q 1/1/1:22	Dot1q		Dot1q	Dot1q 1/1/1:101
5	QinQ 1/1/1:11.22	Dot1q		Dot1q	QinQ 1/1/1:5.22
6	Null 1/1/1	QinQ		QinQ	Null 1/1/1
7	Dot1q 1/1/1:22	QinQ		QinQ	Dot1q 1/1/1:22
8	QinQ 1/1/1:1.100	QinQ		Dot1q	QinQ 1/1/1:1.100
9	QinQ 1/1/1:55.75	QinQ		QinQ	QinQ 1/1/1:22.33