Exercise – SAP Encapsulation

Ref: NRS-II, section 18.2
SA Module 2, section 1 **Due**: Wed Mar 14 @ 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. Starting from the CE port definition (... which *you* do not control), you must determine the correct SAP definition for the PE routers at each end of the service. The SAP definition for the PC 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 PE 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 (dot1Q or QinQ) 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