

# VLAN & Trunks – Summary Cheatsheet (ATech) – Part2



# **VLAN Tagging**

"A method used by Trunk links to carry the multiple VLANs traffic separately, is called VLAN Tagging"

VLAN Tagging Protocols				
802.1Q (dot1q)	IEEE Standard & Open Source			
ISL (Inter Switch Link)	Cisco proprietary Protocol			
LANE (LAN Emulation)	LANE (LAN EMULATION), 802.10 – IEEE (for FDDI)			

### **802.1Q** It is the most important Layer2 Protocol. It is:

"A standard Protocol for VLAN tagging on an IEEE 802.3 Ethernet network" Adds a TAG in original Ethernet Frame between the SMAC & TLV fields.



#### **ISL Ethernet Frame**

ISL TAG	DA	SA	T/L	Data	FCS FCS		
26 Byte	6 Byte	6 Byte	2 Byte	46-1500 Byte	4B 4B		
94 – 1548 Byte							

### \*Imp Points

- **Trunk Ports are always TAGGED** ~
- Access Ports are always untagged
- All VLANs, except the native VLAN are tagged on Trunk Links
- VLAN Tagging is needed when a single link needs to carry traffic for more than one VLAN
- √ Ethernet VLAN devices treat all untagged frames as belonging to the native LAN by default.
- $\checkmark$ The native LAN is always 1 by default, although administrators can change this default number
- VLAN Cross Connect (CC) is a mechanism used to create Switched VIANs
- $\checkmark$ The maximum range of VLAN is 4096 because the TAG length in 802.1Q frame is only 12 bits



# **VLAN Membership Types**

Static Membership	Dynamic Membership
<ul> <li>✓ Most common method</li> <li>✓ Most secure method</li> <li>✓ Membership remains permanent</li> </ul>	<ul> <li>✓ Less secure method</li> <li>✓ Mobility supported</li> <li>✓ Membership is not permanent</li> </ul>

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