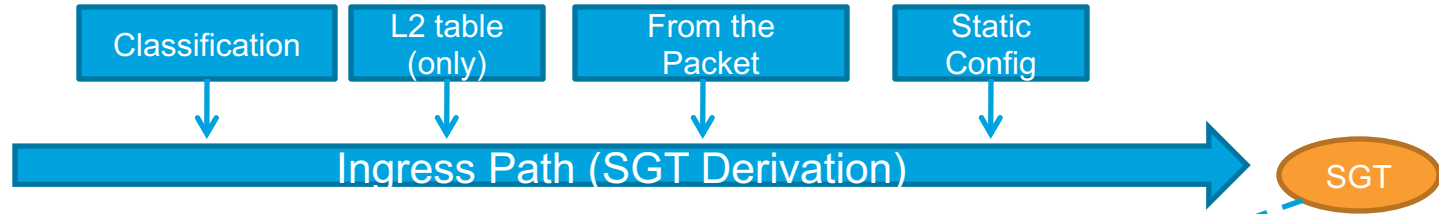


Hardware Forwarding SGT/SGACL today

- Two Groupings of Hardware Forwarding
 - Port/VLAN based
 - Cat 3K-X
 - N5500
 - IP/SGT Based
 - Cat 6K/Sup2T
 - N7K – M series and F series
 - Cat 4K/Sup7E/Sup8E
 - Cat 3850/5760
 - ASR1K
- Each type of hardware has different scaling limits
 - There are limits on the number of SGT/DGT as well as Access Control Entries (ACE) in TCAM
 - All hardware shares ACE entries when possible amongst SGT/DGT

SGT and DGT Derivation in Cat 3K-X



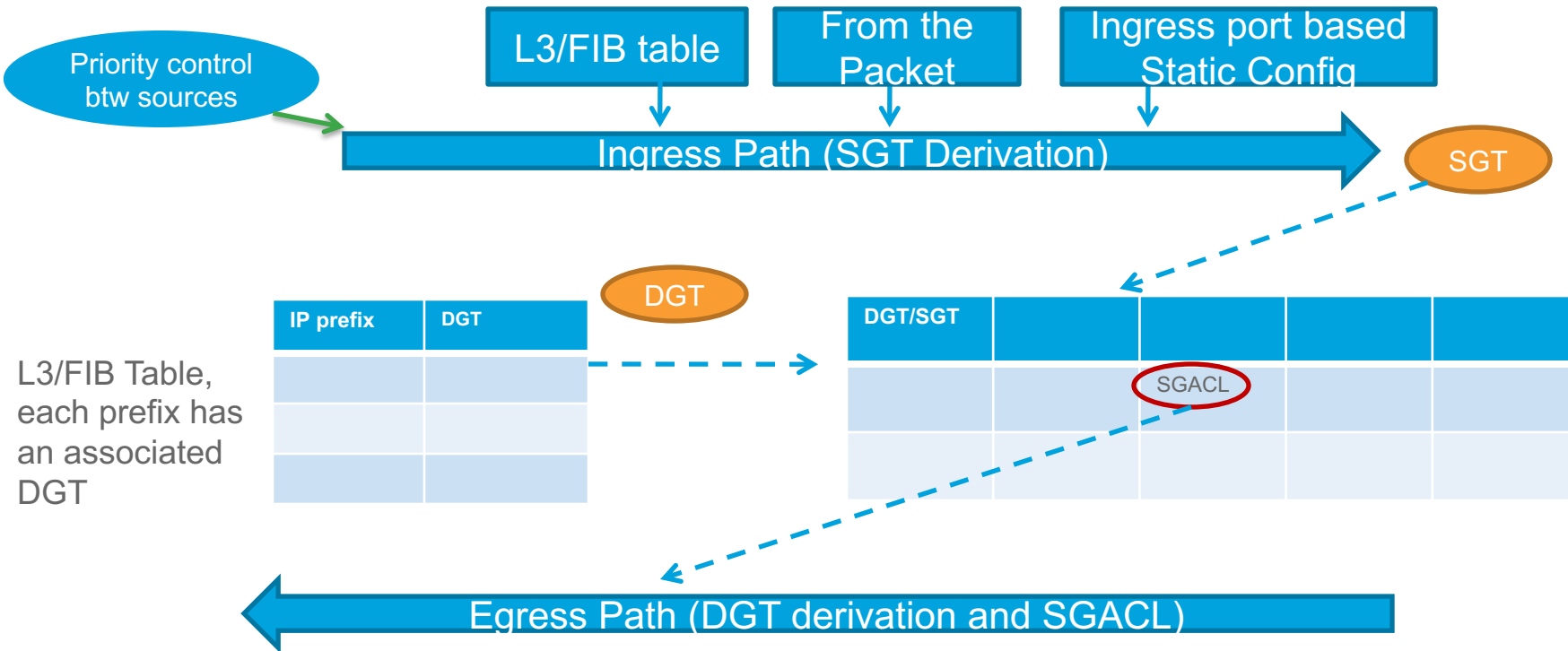
Each (Port,vlan) can have one DGT associated with it.

(Port,vlan)	DGT

DGT/SGT				
		SGACL		



SGT and DGT Derivation in Cat6K/Sup2T



A number of SGT(DGT) assignment sources, e.g. SXP, VLAN-SGT, Subnet/Host SGT, will be evaluated by SGT software against a priority list, the winning result will be programmed into the L3/FIB table



Implications of Hardware Forwarding Capabilities

- Port/VLAN Based Hardware
 - Limited SXP applicability due to the SGT derivation on mac/port
 - Fine to be speakers/relays but not SGT/DGT derivation from SXP
 - Limited number of SGTs per port (one or per vlan/port)
 - Not appropriate for this WLAN access control use case
- IP/SGT Based Hardware Implications
 - Allows for bidirectional SXP
 - Allows for multi-hop SXP coming into the switch due to FIB lookup for IP/SGT
 - Tagging/Enforcement for incoming packet due to FIB lookup for IP/SGT
 - Scale varies per platform. Think hundreds of groups with simple reused permissions (ACEs)
 - As shown, very appropriate for this use case and others