STP – Summary CheatSheet (ATech) – Part1

ONLINE TRAINING ACADEMY
Training The Generations

Key Attributes

Protocol Type/Class:	Network Protocol (Layer2)
Standards:	IEEE 802.1D/W/S/Q, Cisco *(Def on Cisco=PVST)*
Function:	L2 Loops Prevention, Adapt to network changes & failures
Algorithm:	**STP** by Radia Perlman
Multicast Address:	01:80:C2:00:00:00
Port States:	STP=5, RSTP=3
Port Roles:	STP=3, RSTP=4

STP Operations

1. Elect Root Bridge
- Bridge with lowest bridge ID becomes the Root Bridge

2. Select Root Port
- Each bridge selects its primary port facing the root Bridge

3. Select Designated Ports
- Select one Designated Port (DP) per segment

4. Block all remaining Ports
- All non-Root and non-Designated ports are blocked

STP Path Selection Rules

1. Bridge with lowest Root ID becomes the root
2. Always prefer the neighbor with the lowest cost to root
3. Always prefer the neighbor with the lowest Bridge ID
4. Always prefer the lowest sender Port ID

BPDU Types

1. CBPDU (Configuration BPDU)

Used for Spanning Tree computation

2. TCN BPDU (Topology Change Notification BPDU)

Used to announce changes in the network topology

STP Bridge ID

Br ID = Priority.MAC

e.g. **Br ID =** 32768.0200.0000.1111

STP Port Roles

STP	RSTP
Root	Root
Designated	Designated
Blocking	Alternate
	Backup

STP Port States

STP	RSTP	BPDU	Duration
Disabled	Discarding	–	–
Blocking		Rx	20 sec
Listening		Rx/Tx	15 sec
Learning	Learning	Rx/Tx/Learn	15 sec
Forwarding	Forwarding	Rx/Tx/Learn/Fwd	–