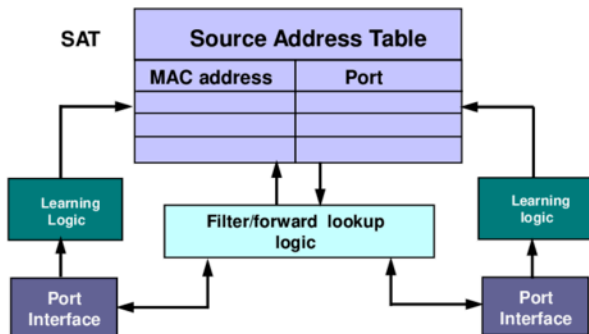


- The functional diagram of a switch contains the **Source Address Table (SAT)**, the **filter/forward lookup logic**, the **learning logic** associated with port interfaces.



Each entry of the SAT contains the association of a host address and switch port that the addressed station can be reached from.

The SAT is populated automatically using the learning logic or manually through the management system.

In the automatic learning when a new frame arrives at a switch port, the learning logic examines its MAC address. If this address is not yet in the table, this logic inserts the address in the table as well as the number of the port used by the frame to enter into the switch.

- When an **Ethernet frame** arrives at a port interface the **filter/forward lookup logic** uses the **MAC address** and **SAT** to decide if the frame needs to be **broadcast**, **forwarded**, or **filtered**.