

CCNA 200-301, Volume 2



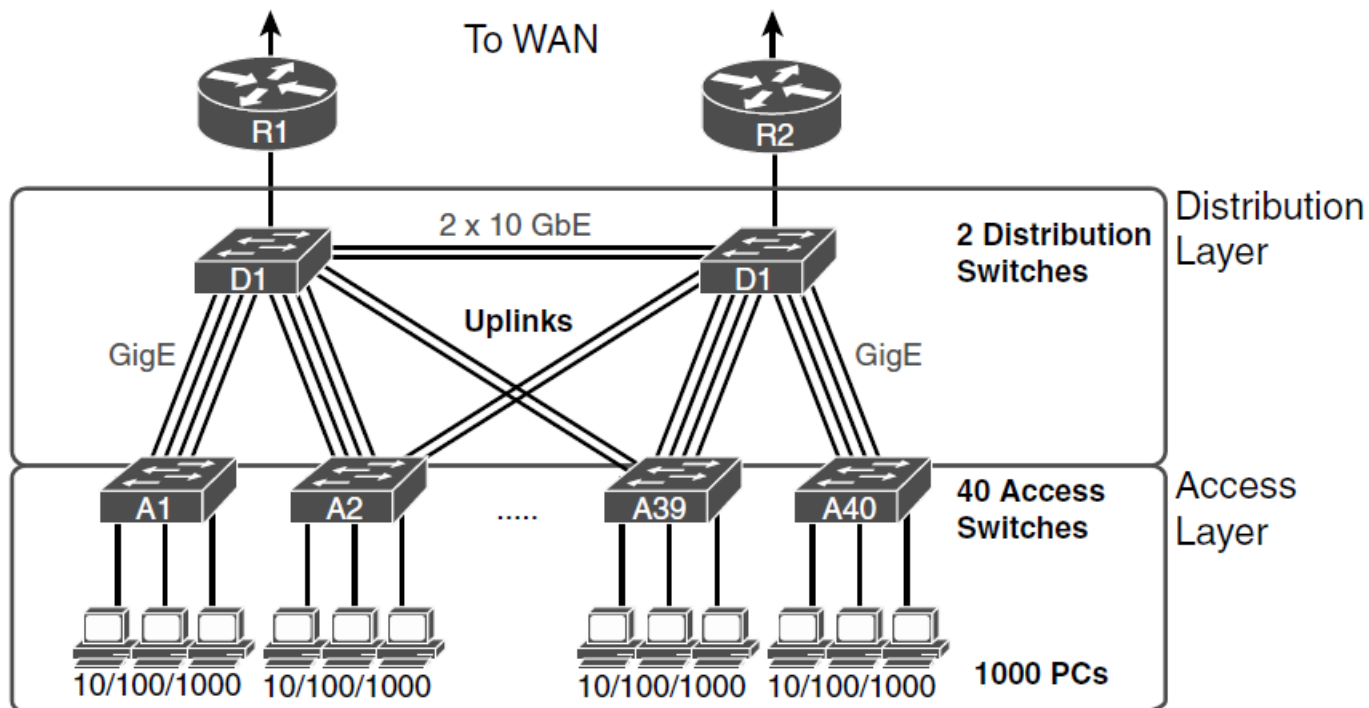
Chapter 13

LAN Architecture

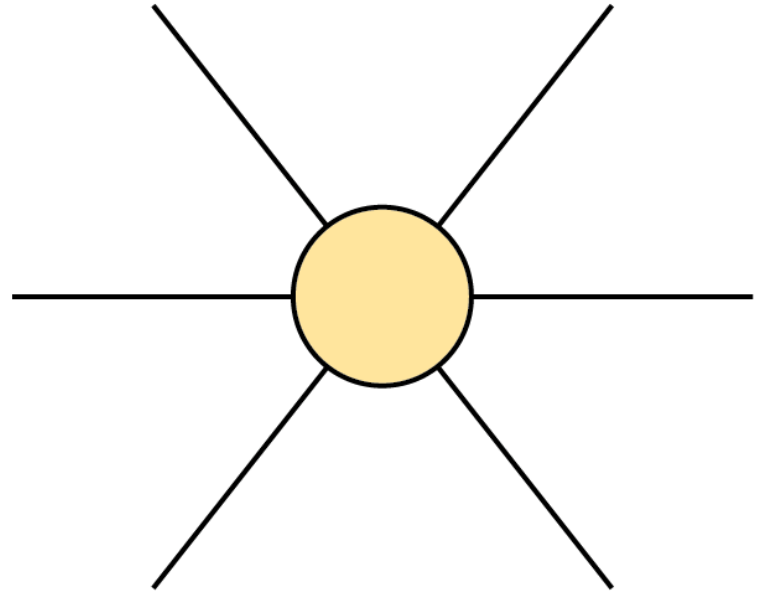
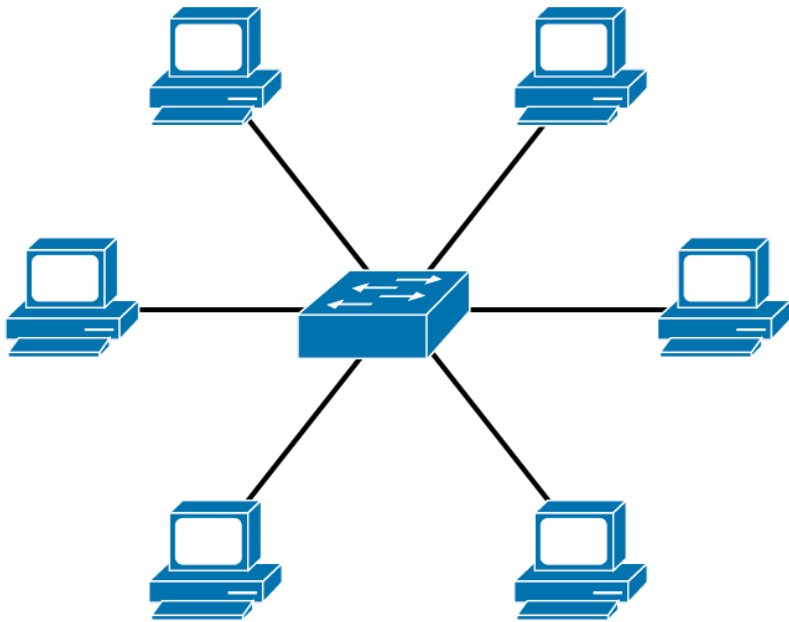
Objectives

- Describe characteristics of network topology architectures
 - 2 tier
 - 3 tier
 - Small office/home office (SOHO)
- Compare physical interface and cabling types
 - Concepts of PoE

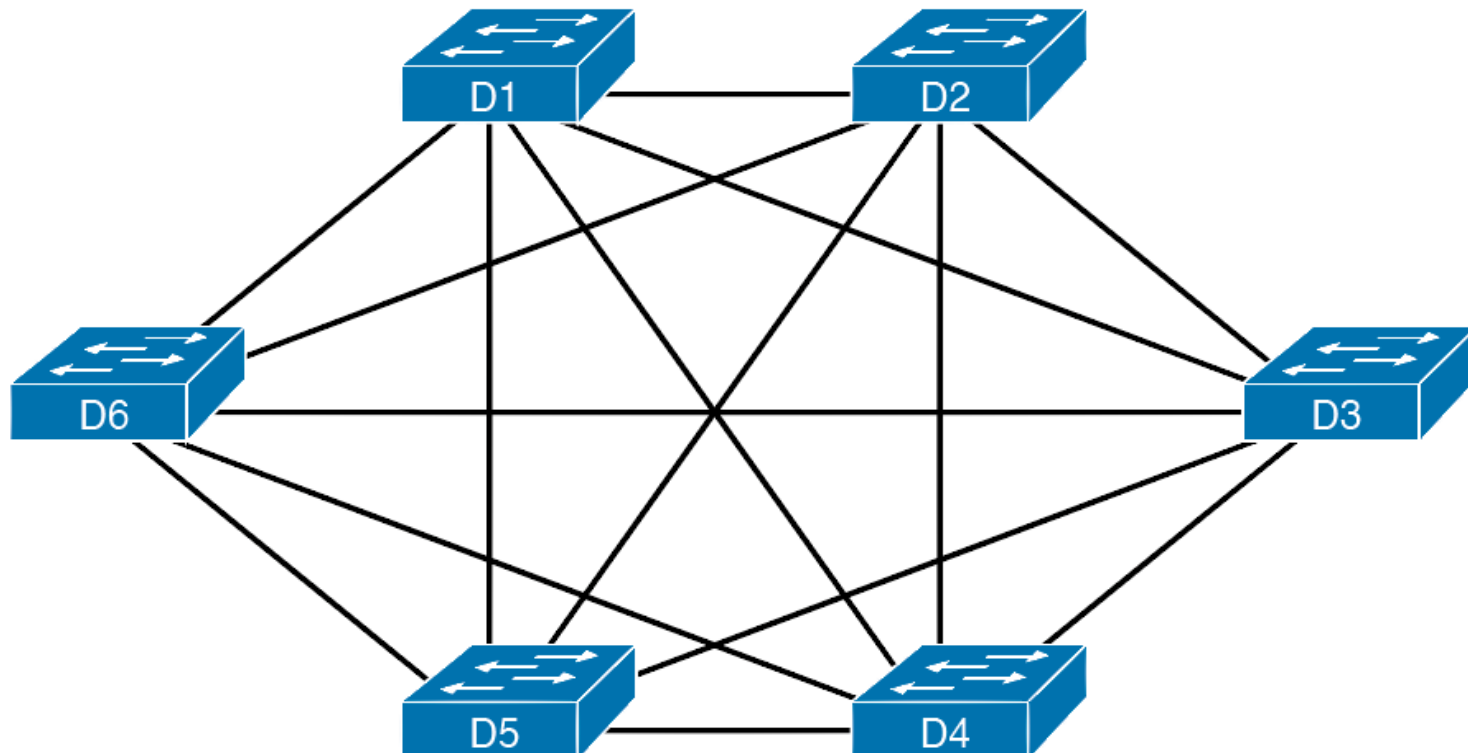
Campus LAN with Design Terminology Listed



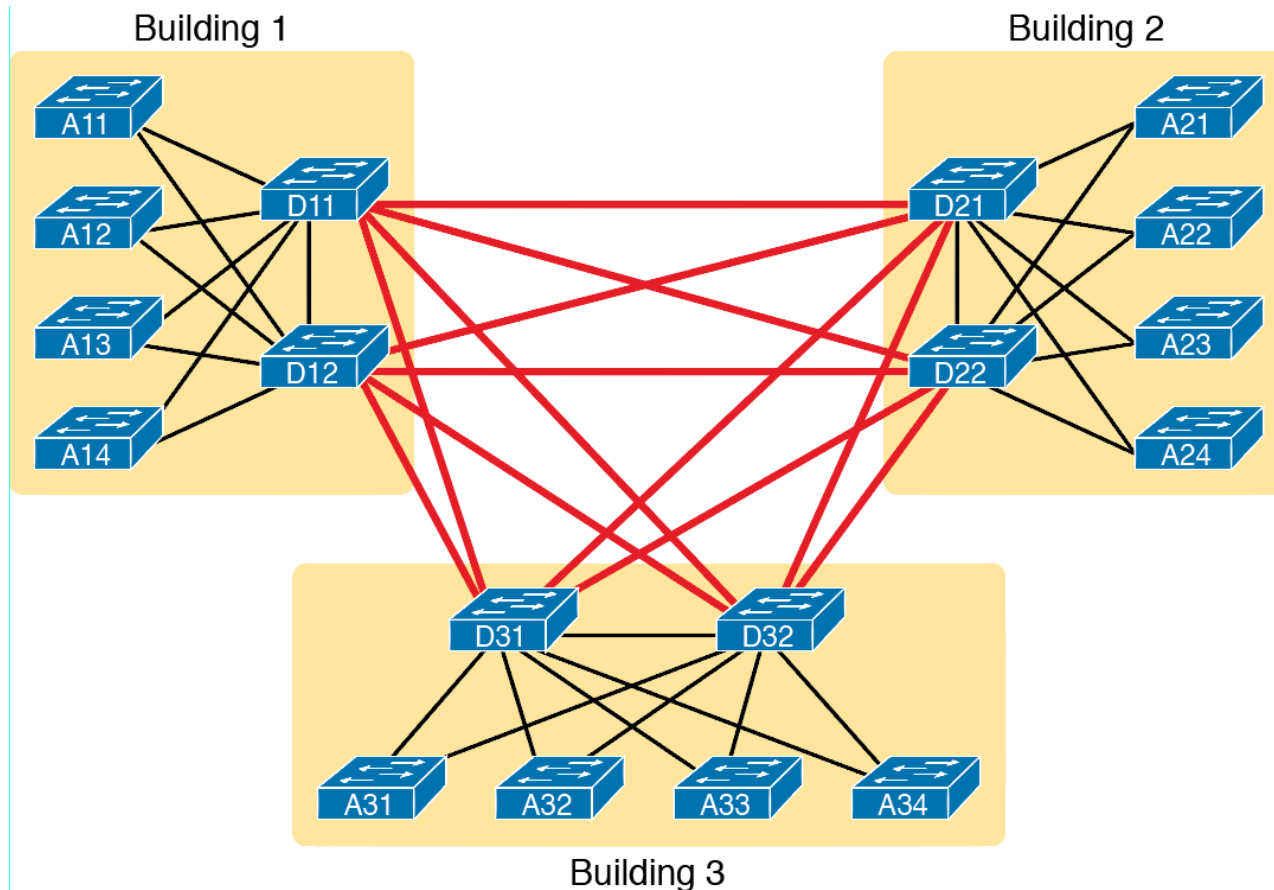
The Star Topology Design Concept in Networking



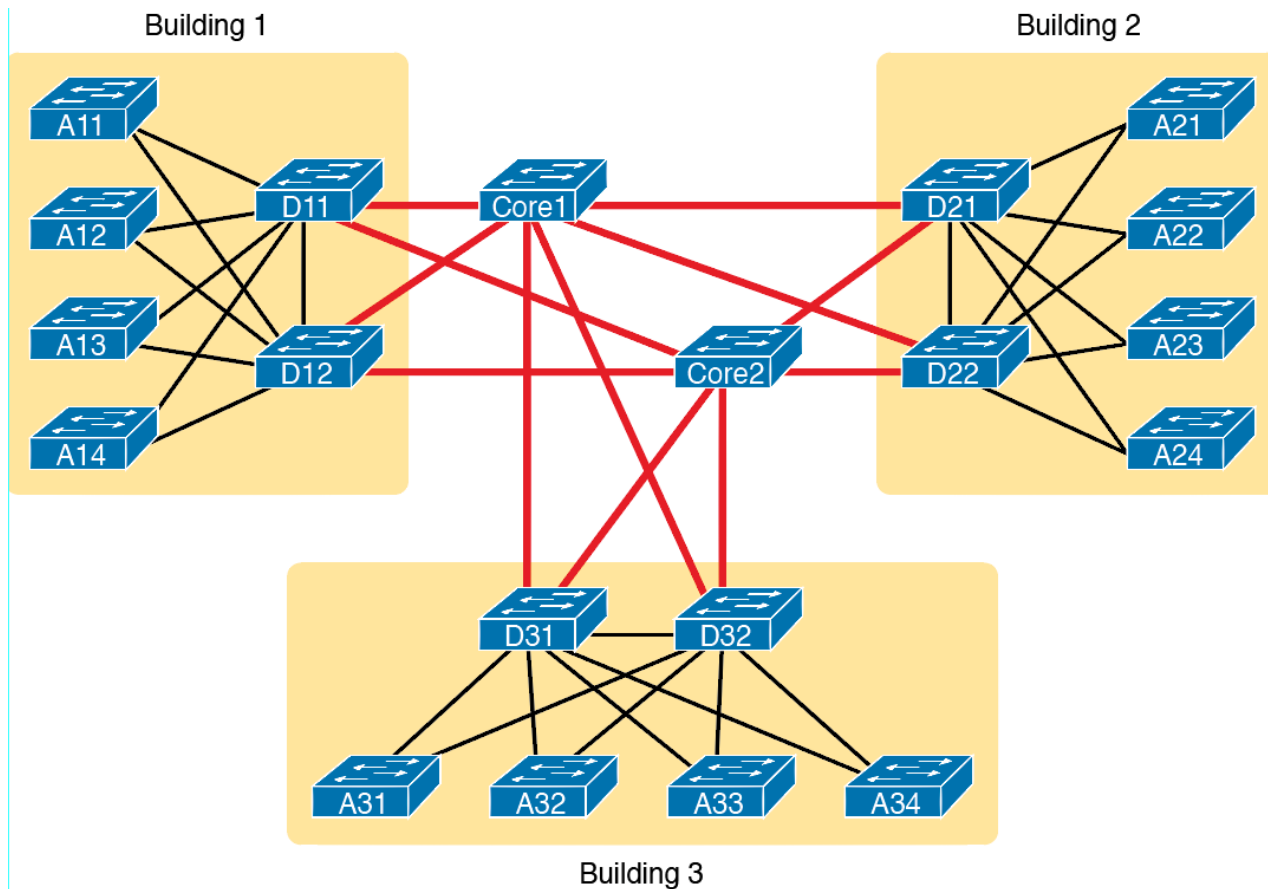
Using a Full Mesh at the Distribution Layer, 6 Switches, 15 Links



Two Tier Building Design, No Core, Three Buildings



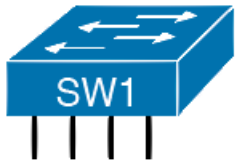
Three-Tier Building Design (Core Design), Three Buildings



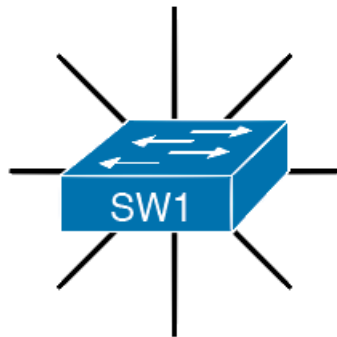
Campus Switches Summary

- Access: Provides a connection point for end-user devices
- Distribution: Provides an aggregation point for access switches
- Core: Aggregates distribution switches in very large campus LANs

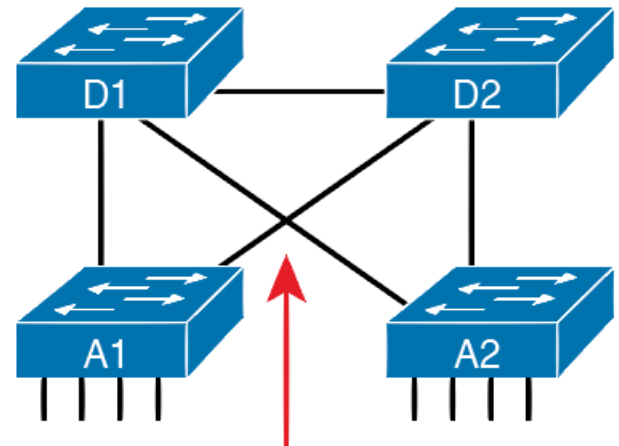
LAN Design Terminology



Access Switch



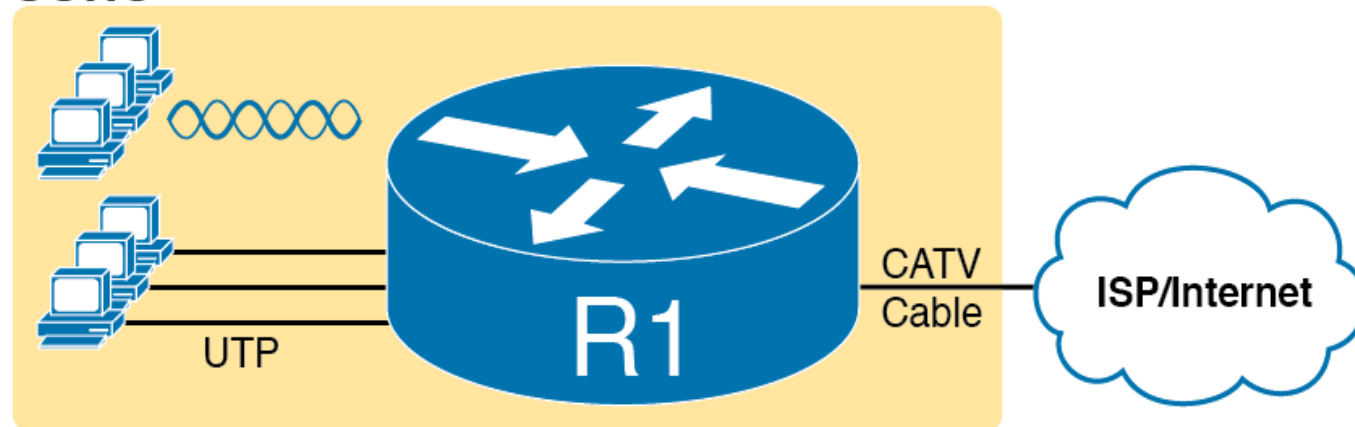
Access Switch: Star



Uplinks: Partial Mesh

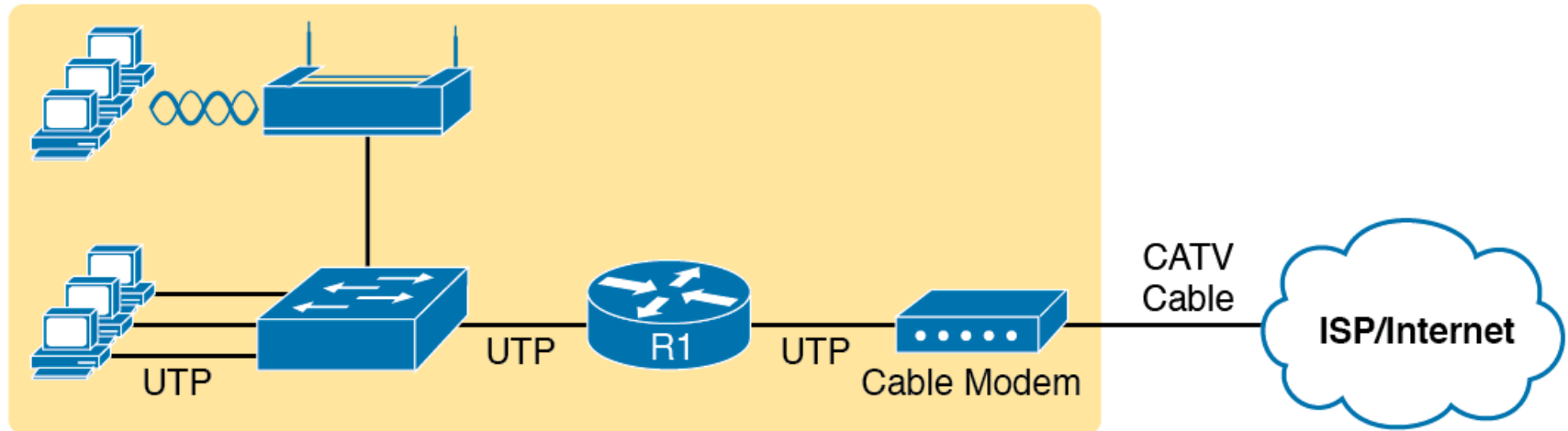
A Typical Home Wired and Wireless LAN

SOHO

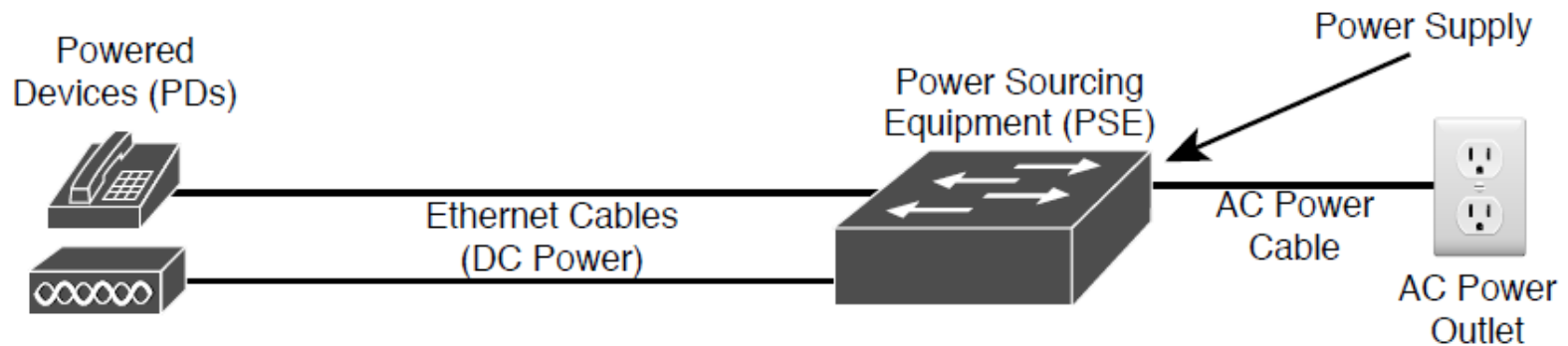


A Representation of the Functions Inside a Consumer Wireless Routing Product

SOHO



Power over Ethernet Terminology



Power over Ethernet Standards

Name	Standard	Watts at PSE	Powered Wire Pairs
Cisco Inline Power	Cisco	7	2
PoE	802.3af	15	2
PoE+	902.3at	30	2
UPoE	802.3bt	60	4
UPoE+	802.3bt	100	4

Key Points When Planning a LAN Design with PoE

- Powered Devices
- Power Requirements
- Switch Ports
- Switch Power Supplies
- PoE Standards vs. Actual