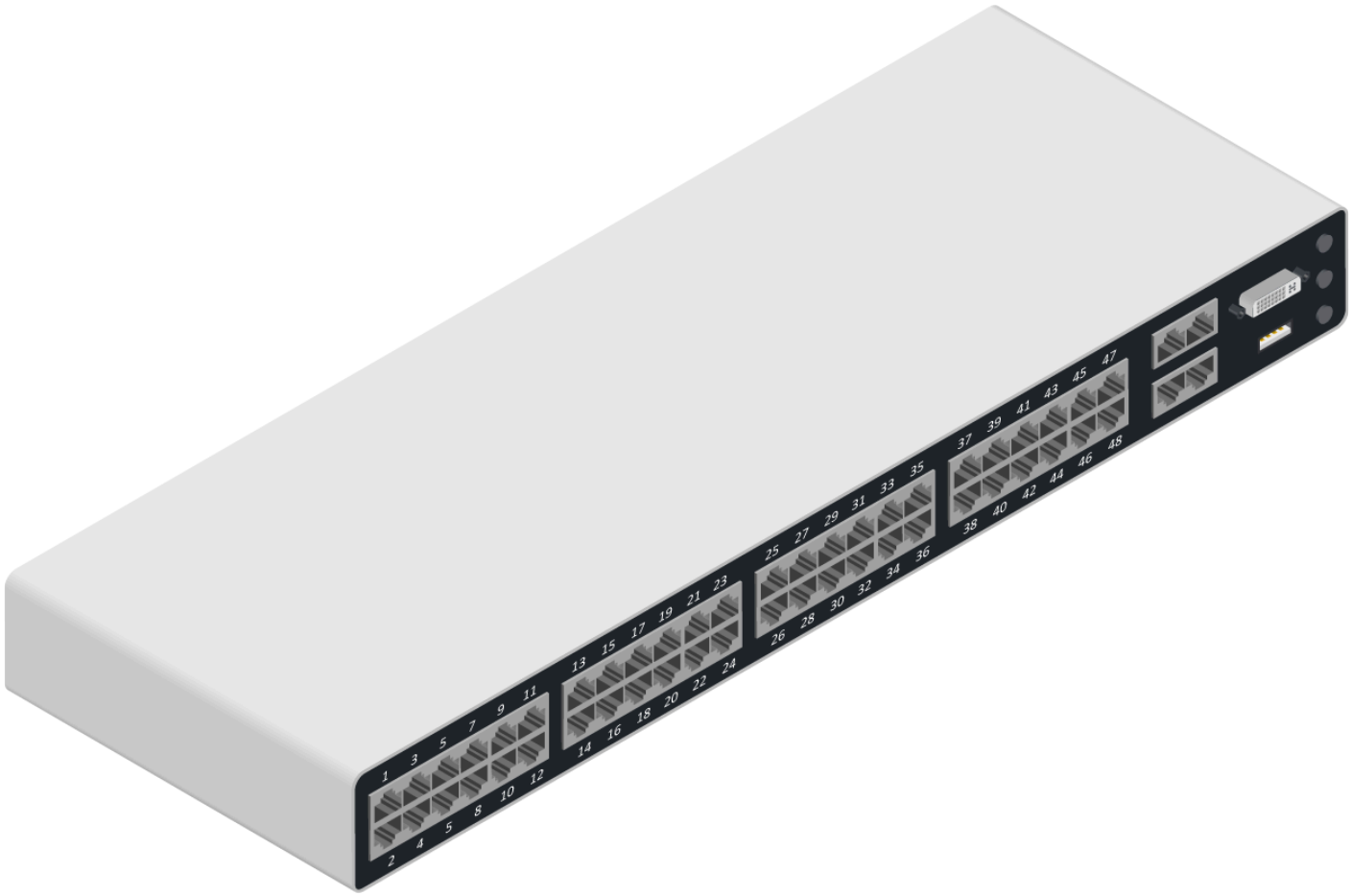
A+ Core 1 and Core 2 CertMaster Perform 15.0

5.2.9 Unmanaged and Managed Switches

An **unmanaged** switch performs its function without requiring any sort of configuration. You just power it on and connect some hosts to it, and it establishes Ethernet connectivity between the network interfaces without any more intervention. Common unmanaged switches will have four or eight ports, as they are typically used in small networks. There is an unmanaged four-port switch embedded in most of the SOHO router/modems supplied by Internet Service Providers (ISPs) to connect to their networks.

Larger workgroups and corporate networks require additional functionality in their switches. Switches designed for larger LANs are called a **managed switch**. A managed switch will work as an unmanaged switch out-of-the-box, but an administrator can connect to it over a management port to configure security settings and then choose options for the switch's more advanced functionality. Most managed switches are designed to be bolted into standard network racks. A typical workgroup switch will come with 24 or 48 access ports for client PCs, servers, and printers. These switches have uplink ports allowing them to be connected to other switches.

A workgroup switch



An enterprise might also use modular switches. These provide a power supply and fast communications backplane to interconnect multiple switch units. This enables the provisioning of hundreds of access ports via a single compact appliance.

Modular chassis allows provisioning multiple access switches

Image © 123RF.com.

Configuring a managed switch can be performed over either a web or command line interface.

Viewing interface configuration on a Cisco switch

```
FastEthernet1/0/1 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is f41f.c253.7103 (bia f41f.c253.7103)
  MTU 1500 bytes, BW 100000 Kbit/sec, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:51, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     18 packets input, 1758 bytes, 0 no buffer
     Received 4 broadcasts (2 multicasts)
     0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 watchdog, 2 multicast, 0 pause input
     0 input packets with dribble condition detected
     111 packets output, 13828 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 unknown protocol drops
```