chassis. Stackable switches are by nature managed switches, and the defining characteristic of a stackable switch is that all the switches connected together into a single stack are managed as if they're a single switch.

For example, a stackable switch may be initially configured with just a single module that provides 48 switch ports. If you need additional ports, you can add a second module with 48 additional ports, creating a single switch with 96 ports.

Stackable switches are more expensive than non-stacking switches, but the simplicity of managing one large switch rather than managing multiple smaller switches may justify the added cost.

## Looking at distribution switches and access switches

A network large enough to require more than one switch may also be large enough to require several distinct types of switches:

» **Access switches:** An *access switch* is a switch that typically has a large number of 1 Gigabit (Gb) ports whose job is to connect individual devices such as computers and printers to the network.

   For example, if your company has 100 employees, and you have wired two Cat-5e cables to each user's desk, you'll need at least 200 1 Gb switch ports to support these users. You'll also need a few extra ports for things like printers and Wi-Fi access points.

   Your network design may end up with a total of five 48-port access switches, providing a total of 240 1 Gb ports to support the 100 users.

» **Distribution switches:** A *distribution switch* is a switch that isn't designed to directly support end users. Instead, it's designed to connect the access switches to each other and to your servers. Because the purpose of distribution switches is to manage the aggregate traffic from all the access switches, distribution switches are sometimes called *aggregation switches.*

   Often, a distribution switch uses 10 Gbps ports rather than 1 Gbps ports. The added speed is helpful because each port on the distribution switch carries much more data than each port on the access switches. The access port switches should also be configured with a few 10 Gbps ports, which are used to connect to the distribution switch.

» **Core switches:** The largest networks may also utilize separate *core switches,* which are used to connect the distribution switches. Core switches manage traffic between distribution switches.