access lines. (A few POTS lines are always required in any building.) VoIP eliminates also the noncarrier costs (that is, your maintenance costs), line fees, and government surcharges that come with those lines. And VoIP runs on the computer network, which is usually already set up.

Converging Networks

In Figure 2-10, you see a packet-switched computer network running VoIP and connected to the traditional PSTN. Note the absence of any POTS lines or private telephone systems (KTS or PBX) under the DS carrier service network cloud. All telephone calls are originating on the company's computer network using VoIP. Only calls destined for the PSTN are diverted off the company's network. These types of calls, referred to as *off-net,* are the only calls that may be associated with a recurring service charge. For customers and companies running VoIP, off-net calls typically are only the calls that go to the public network (for example, to order a pizza or to call 911). On-net calls require no additional lines over the existing computer network setup and, unlike POTS-PSTN calling, have no additional recurring charges.
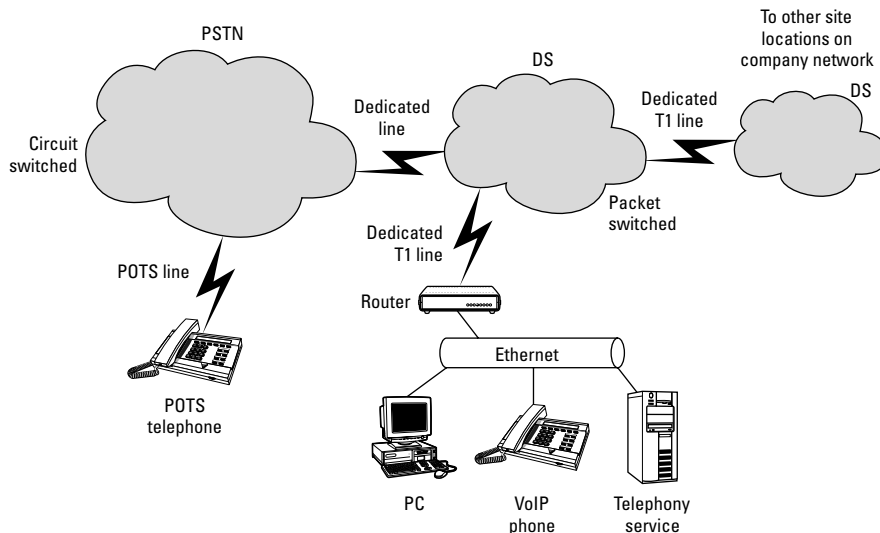

Figure 2-10:
VoIP
connecting
to private
and public
networks.

A smaller company with just a single location may use VoIP to connect their computer network to the PSTN to support calls that must travel off their private network. This solution requires installing a VoIP gateway that can convert the company's on-net traffic to circuit-switched telephone calls that have an off-net destination. For example, a call from your desktop phone to the grade school that your daughter attends is likely to be a local PSTN call. Figure 2-11 shows how a VoIP network works with a gateway.