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## ■ Broadband over Powerlines (BPL) in a Nutshell

CUSTOMERS WITH BROADBAND OVER POWERLINES (BPL) CAN GET HIGH-SPEED INTERNET CONNECTIONS THROUGH THEIR ELECTRICAL OUTLETS, WITHOUT ANY SPECIAL INSTALLATION OR WIRING. IT IS FASTER AND CHEAPER TO DEPLOY THAN MOST OTHER FORMS OF BROADBAND NETWORKS.

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Broadband over powerlines (BPL) allows customers to get high-speed internet connections through their electrical outlets. Users can plug a power line modem into an electric socket anywhere in an office or facility, without requiring any special installation or wiring. Computers connected to the modem (either directly or through a local area network) have fast internet access.

Here's how it works: The utility connects the internet to its electric distribution lines by installing power line adaptors at centralized locations. These adaptors receive internet data and translate it to special frequencies that can be combined with electricity and transmitted over the distribution lines. The endpoint modems separate the data from the electricity, sending the data to an Ethernet port.

This technology has been around for several years, but the early products were mostly aimed at low-cost home computer networking. Utilities have used earlier versions of the technology (at lower frequencies) for asset monitoring.

When compared to digital subscriber lines (DSL) or cable modems, BPL could be faster to deploy, and with less capital investment per new customer. That equates to lower rates for users and faster cost recovery for the utility. BPL rates are currently \$30-40 per month.

To extend BPL, the power company installs some equipment in their home office and attaches repeaters to the existing lines. The low cost of field gear and the presence of existing lines gives BPL an advantage in areas where there is a low ratio of customers to gear.

BPL is not widely deployed today. It has the potential to spread broadband quickly, either through thousands of BPL connections, or by motivating DSL and cable operators to more quickly serve rural communities.

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