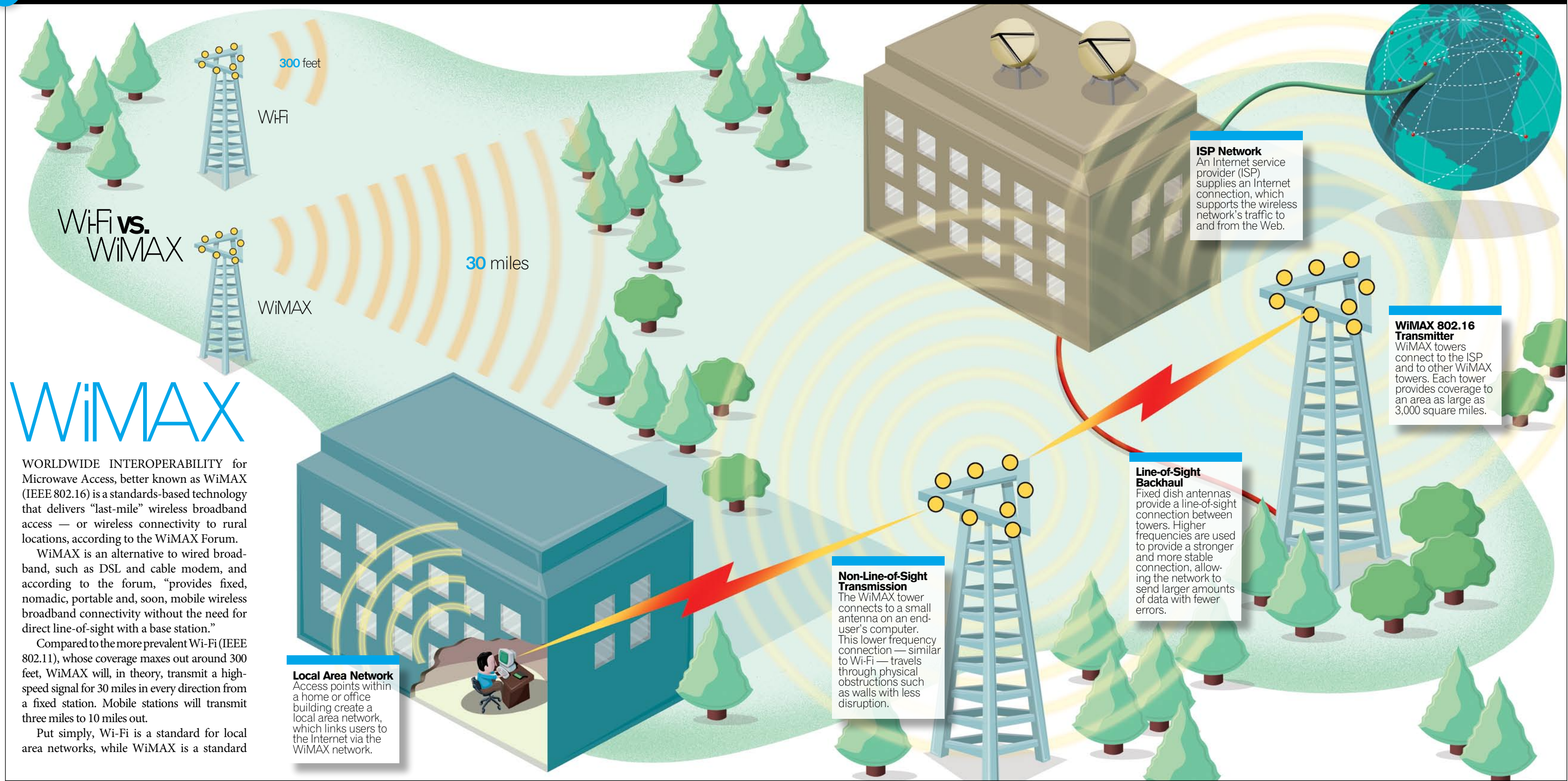


## Turning technology inside out



### WiFi vs. WiMAX

## WiMAX

WORLDWIDE INTEROPERABILITY for Microwave Access, better known as WiMAX (IEEE 802.16) is a standards-based technology that delivers “last-mile” wireless broadband access — or wireless connectivity to rural locations, according to the WiMAX Forum.

WiMAX is an alternative to wired broadband, such as DSL and cable modem, and according to the forum, “provides fixed, nomadic, portable and, soon, mobile wireless broadband connectivity without the need for direct line-of-sight with a base station.”

Compared to the more prevalent Wi-Fi (IEEE 802.11), whose coverage maxes out around 300 feet, WiMAX will, in theory, transmit a high-speed signal for 30 miles in every direction from a fixed station. Mobile stations will transmit three miles to 10 miles out.

Put simply, Wi-Fi is a standard for local area networks, while WiMAX is a standard

**Local Area Network**  
Access points within a home or office building create a local area network, which links users to the Internet via the WiMAX network.

**Non-Line-of-Sight Transmission**  
The WiMAX tower connects to a small antenna on an end-user's computer. This lower frequency connection — similar to Wi-Fi — travels through physical obstructions such as walls with less disruption.

**Line-of-Sight Backhaul**  
Fixed dish antennas provide a line-of-sight connection between towers. Higher frequencies are used to provide a stronger and more stable connection, allowing the network to send larger amounts of data with fewer errors.

**ISP Network**  
An Internet service provider (ISP) supplies an Internet connection, which supports the wireless network's traffic to and from the Web.

**WiMAX 802.16 Transmitter**  
WiMAX towers connect to the ISP and to other WiMAX towers. Each tower provides coverage to an area as large as 3,000 square miles.