

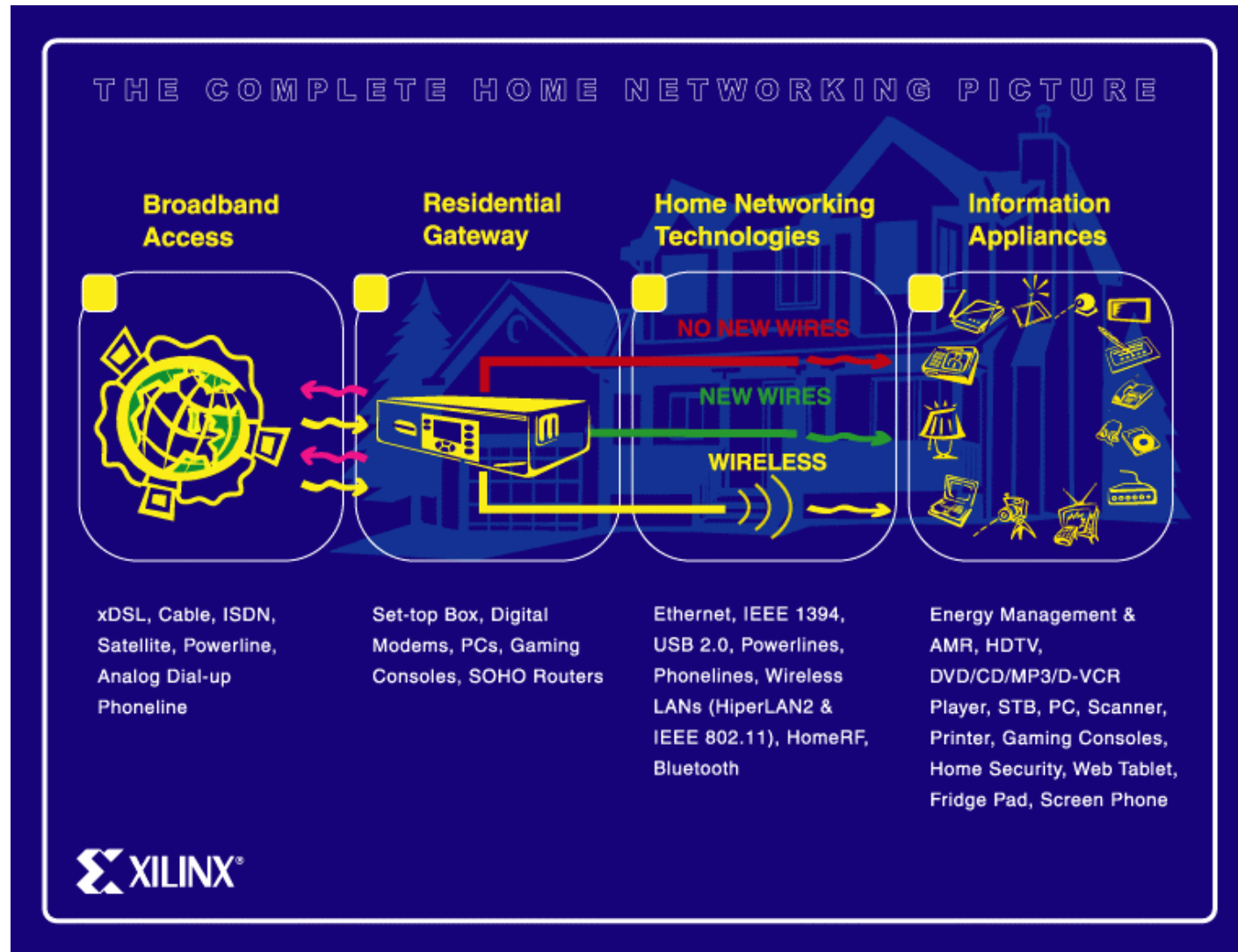
# The Push for Home Networking

- ◆ Rapid growth in multiple-PC household penetration (Dataquest)
  - PC penetration exceeds 50% in US households
  - Multi-PC households growth: 15M (in 1998) to 26M (in 2003)
- ◆ Increasing Internet usage (Yankee Group)
  - Nearly 90% of PC households will be online by 2001
  - Online households growth: 20% (in 1997) to 47% (in 2001)
- ◆ Broadband Internet access (Forrester Research)
  - Broadband penetration growth: less than 1M (in 1998) to more than 15M (in 2002)
  - % Penetration of online households: increases from 2% (in 1998) to 26% (in 2002)

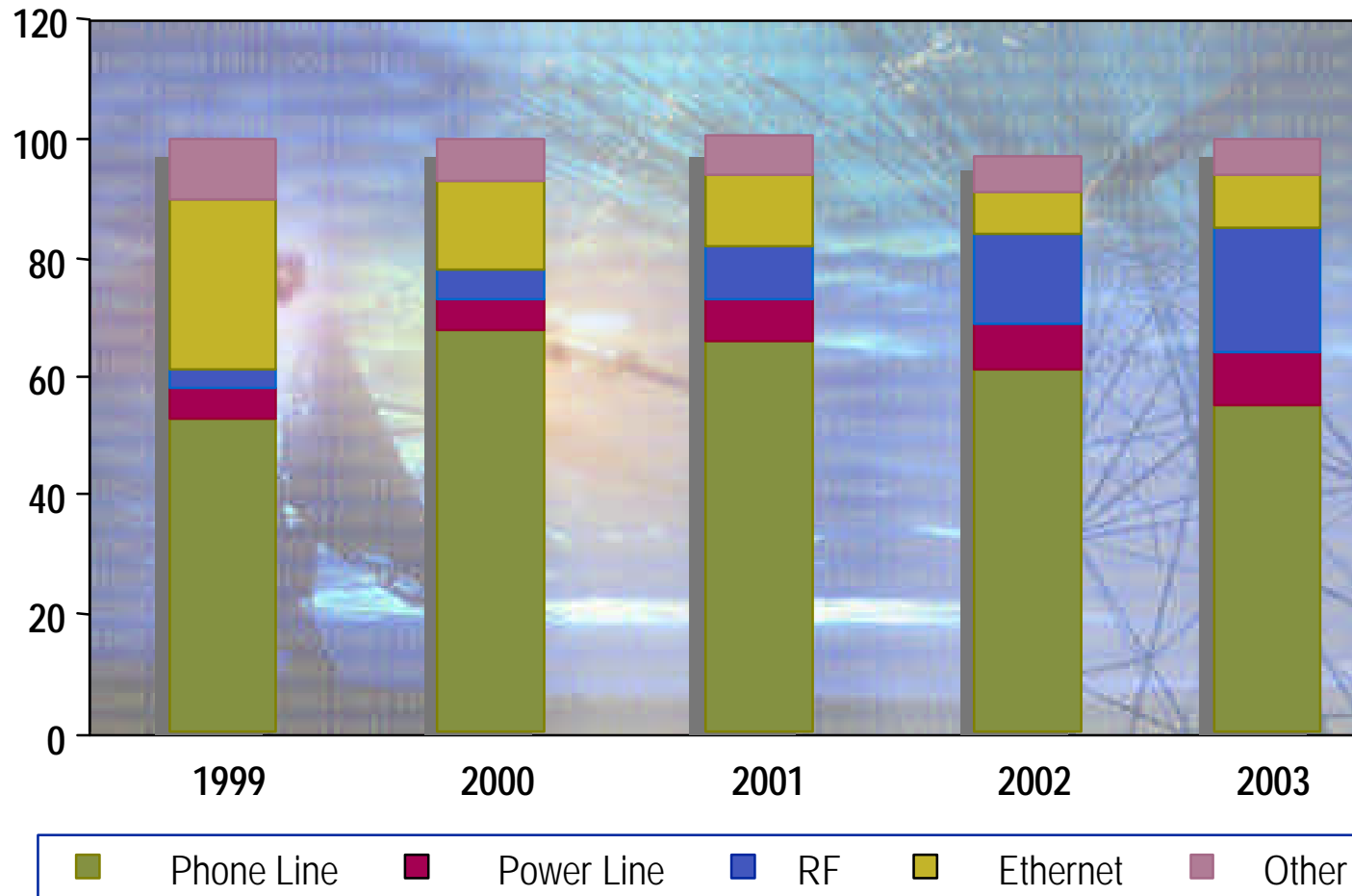
# The Push for Home Networking

- ◆ More digital appliances are coming into the home (by IDC)
  - DSS, DVD, Digital TV
  - Web-Top boxes, set-top boxes
  - PDAs, mobile (cellular) phones
  - Digital cameras
  - Installed base of internet appliances will exceed 50M by 2001
- ◆ More digital content being shared at homes
  - Published Content
    - CD-ROMs, DVDs, DVRs, digital photography
  - Networked Content
    - DTV, DBS, VoIP, MP3, movies-on-demand, streaming media

# Four Aspects to Home Networking



# Applications Driving Home Networking



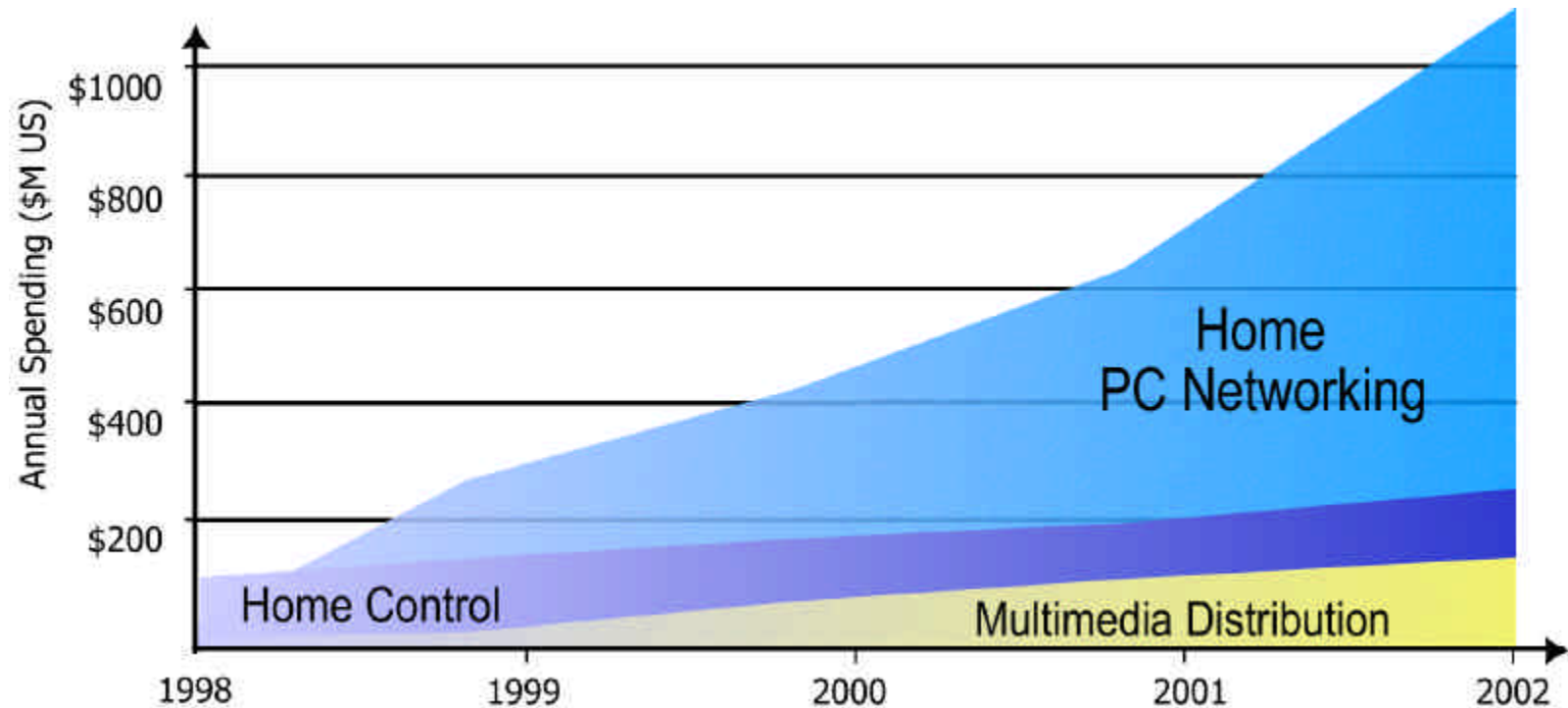
Courtesy: Dataquest



[www.xilinx.com](http://www.xilinx.com)



# Market Growth Projection



Forrester 2/98



# Powerline Based Applications In Home Networking

- ◆ Home Automation
  - Lighting Control
  - Temperature & Ventilation Control
  - Security
  - Sprinklers
  - Audio/Video Control
  - Sensors
  - Gates & Doors Control
  - Pool & Spa Control
  - Phone Control
  - PC Control

# Powerline Based Applications In Home Networking

- ◆ Shared Internet Access
  - Extensions of Cable, xDSL, and POTS modems
  - Can be used in powerline-based Residential Gateways, Set Top Boxes, DLS , Cable , and Satellite modems
  - Multiple PC users can share the Internet via single connection
- ◆ Remote Peripherals
  - Printers, Scanners, Fax, especially when these peripherals are connected through the USB port
- ◆ IP Telephony from 'Fat Pipe'
  - Extensions of IP and other forms of Cable modem telephony from set-top boxes to telephones around the house

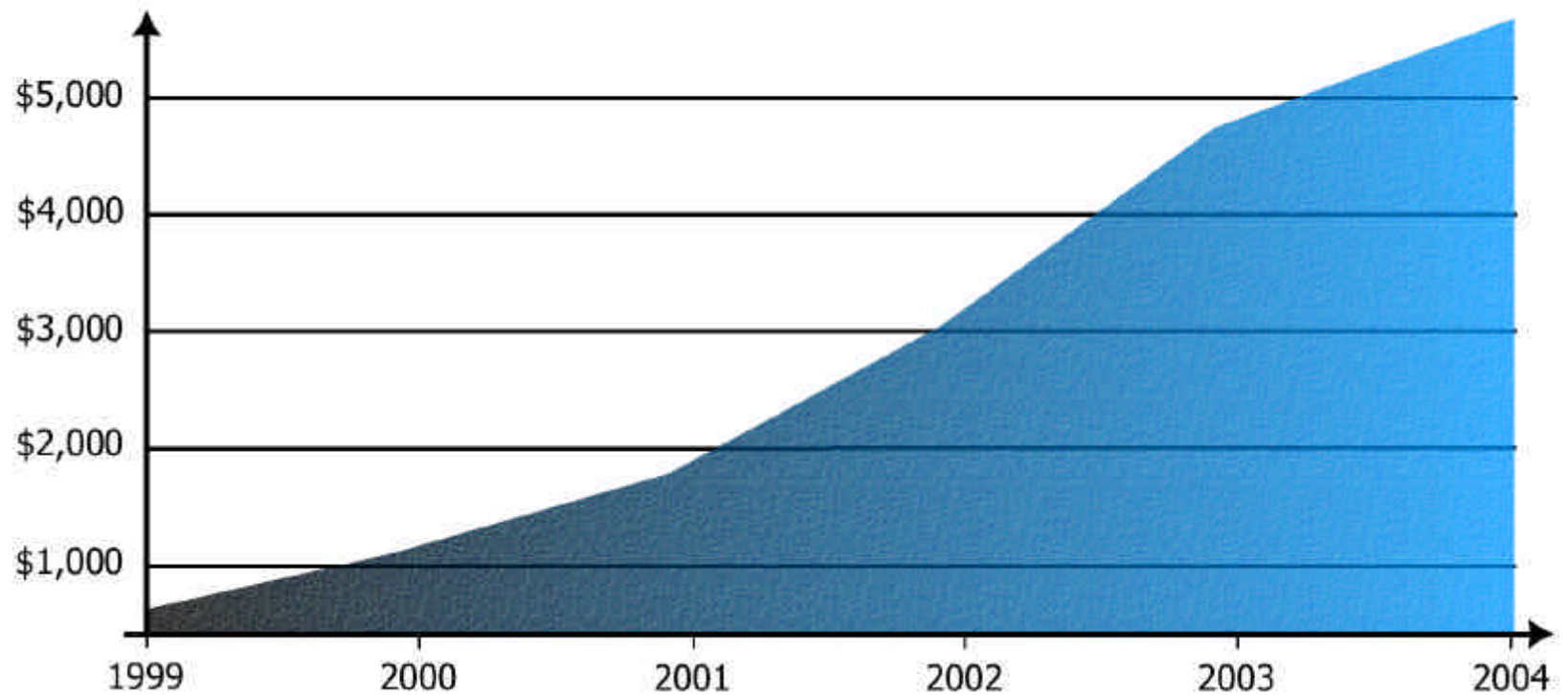
# Powerline Based Applications In Home Networking

- ◆ Power Line Audio Systems
  - Remote deployment of speakers playing PC based music
  - No need to additional wiring for speakers
- ◆ Ethernet Powerline Networking Modules
- ◆ File Sharing in Multiple PC Homes
  - Music
  - Images
  - Video
  - Games



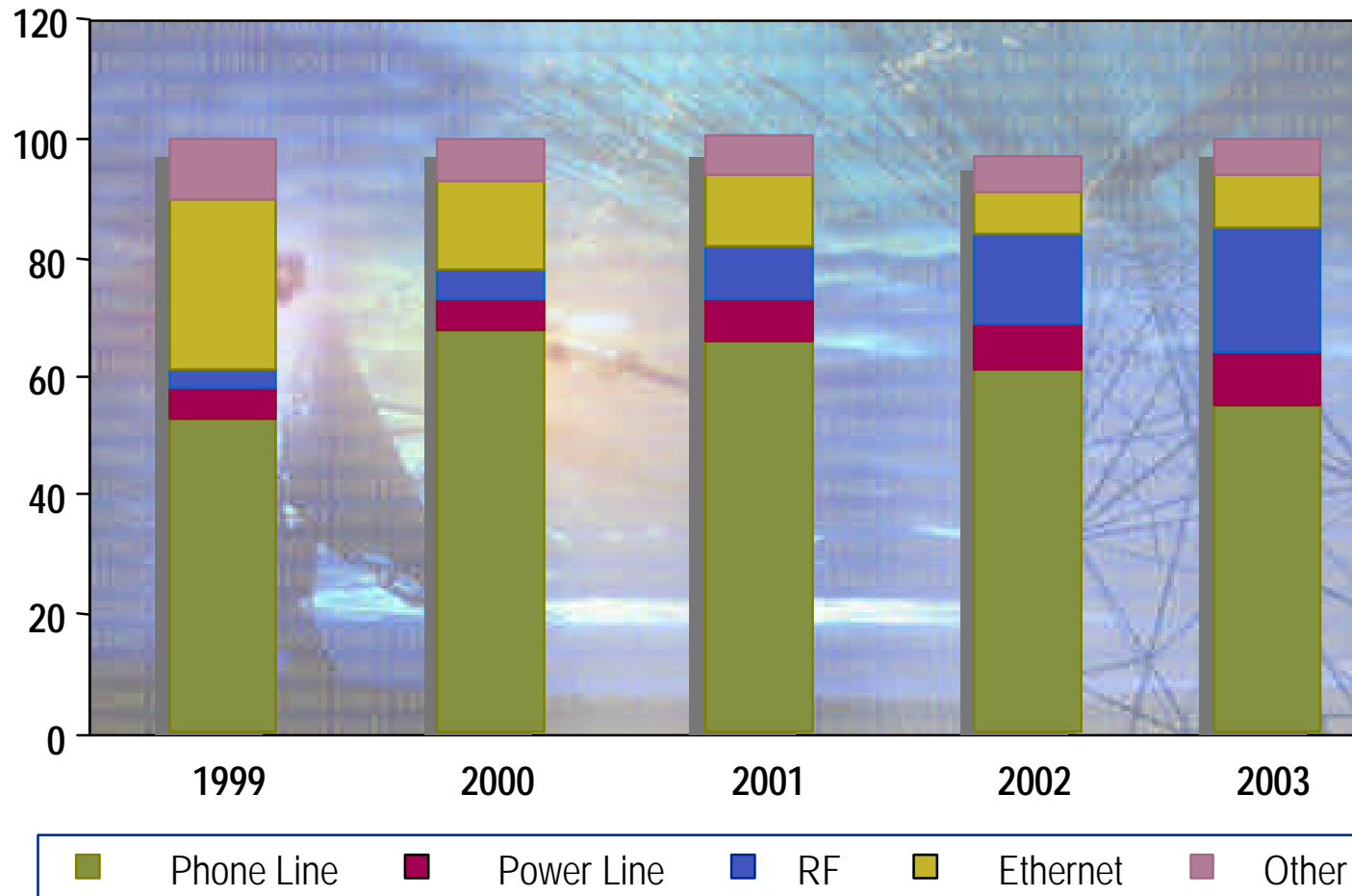
# Worldwide Revenue Forecast

Worldwide Home Network and Residential Gateway Forecast (US \$M)



Source: Cahners In-Stat Group

# Market Acceptance



Courtesy: Dataquest



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# Problem: Islands of Technology

