

HomePNA™ & Zhone® Technologies

Perfect Partnerships to Create Intelligent Home Networks

What is the No. 1 benefit of joining an open industry group such as HomePNA, an alliance that develops triple-play home networking solutions for distributing entertainment data over both existing coax cables and phone wires? Many members including Zhone Technologies, a provider of advanced communications equipment, cite access to the ecosystem of member-certified products to enhance their own technology development.

In fact, Zhone Technologies took full advantage of this member benefit when the company developed and released its zNID Intelligent Fiber to the Home (FTTH) Gateway that enables operators to provide carrier-class residential multi-play services including voice, data and video. Zhone worked with fellow member company Coppergate Communications, employing its HomePNA 3.1 chipset, to enable the zNID solution to provide a rich range of entertainment and communication choices, in addition to data storage and management, peer-to-peer networking and 24 x 7 remote access.

The zNID solution supports the HomePNA 3.1 specification, providing full-speed operation simultaneously over coax cables and phone wires to offer advanced quality of service (QoS) features throughout the home. Zhone's zNID provides carriers with a suite of easy-to-use features for service providers and consumers. Zhone's zNID is the only FTTH network gateway to provide advanced Layer 3 intelligence for remote monitoring and traffic prioritization of QoS-sensitive media applications. TR-069 Automatic Configuration Server — the same management standard already used in millions of DSL installations worldwide — manages service changes or upgrades.

zNID dramatically simplifies and optimizes efficiency of using standard coax cable and ordinary twisted pair phone wires for complete HomePNA coverage with existing wires. It creates intuitive interfaces for the end user that enable Voice-Over Internet Protocol (VoIP) phones to plug right into phone jacks and IPTV set-top boxes to be connected via regular coax. Service providers can deliver advanced triple-play services, including standard- and high-definition IPTV over standard coax, phone wires or Ethernet with around 100 Mbps of available bandwidth on each medium. In addition to advanced digital media, zNID supports traditional services including broadcast television and plain-old telephone service (POTS).

The first gateway to derive its power from the existing phone wires in the home, zNID further eliminates the risks and costs of hiring technicians to drill holes through walls and run in-home cable — something consumers greatly appreciate. zNID's resilient thermal enclosure



mounts on the outside of the house with a separate fiber tray so the electronic panel can be added upon service activation. Remote broadband access provides the end-user anywhere-connectivity to his home network via a password-protected virtual private network (VPN) that can be accessed by mobile phone or remote Web browser.

"HomePNA helps keep the customers happy," said Chris Bernard, product manager at Zhone. "The service provider does not have to drill holes in the house nor does the consumer

Checks for Success

Zhone's membership in HomePNA helped Zhone create success with:

- ✓ Access to an ecosystem of HomePNA certified products to enhance technology development
- ✓ Access to HomePNA's certification and plug-fest interoperability events
- ✓ Use of HomePNA technology to leverage the advantages of an international standard to create interoperable products that just work
- ✓ Ability to leverage a service provider model that uses existing wires home networking to avoid drilling holes in consumers' walls and ceilings
- ✓ Enhanced customer service through remote management and diagnostics
- ✓ Improved high QoS to ensure a positive customer experience
- ✓ High-speed product roadmap to 320 Mbps data rates

have to take a day off from work to wait for the service installer to show up. HomePNA also has built-in diagnostics. The service provider can remotely view home network information to check status or make changes."

The Group Advantage

The backing of major industry leaders such as AT&T, Motorola and Scientific-Atlanta, and suppliers such as SendTek has made HomePNA an attractive technology standard for companies like Zhone. HomePNA membership allowed Zhone to identify hardware and software that passes HomePNA's self-certification tests to ensure interoperability and meet the needs of the growing IPTV industry, a market projected to rapidly expand over the next few years.

"The total number of connected IPTV households capable of viewing some form of IPTV will grow from 5.8 million in 2006 to over 80 million by 2011. Penetration of pay TV subscribers within this larger group of connected IPTV households will reach 51 percent by the end of 2011, producing a total paying subscriber base of 41 million homes."¹

¹ "Technology Trail for Broadcast Asia2007 — Global IPTV Outlook: Homes, Users and Subscribers," Broadcast Asia.com, http://www.broadcast-asia.com/downloads/IPTV_web.pdf

"IPTV technology is one of the primary drivers in our product development," said Bernard. "IPTV requires our customers to deliver higher bandwidth capabilities to the home. HomePNA technology answers that demand by providing a high-speed roadmap to data rates up to 320 Mbps with guaranteed QoS."

Beyond how fast HomePNA certified products can deliver multimedia over existing wires, a really important part of that advantage also includes enhanced interoperability. IPTV requires a mix of services and equipment to seamlessly work together to

Technology Solution

Zhone Technologies is a global provider of advanced communications equipment.

prevent end-user frustration. Consumers who cannot easily turn on an IPTV and change channels like a regular television will soon shy away from the technology. The HomePNA interoperable standard does much to remove this barrier and allows companies like Zhone to develop products such as the zNID.

"We wanted to use an open international standard to ensure that the zNID would work well with any device, for example, Scientific-Atlanta's set-top box, that also has integrated HomePNA technology," said Bernard. "I expect no problem connecting when we hook up HomePNA-certified equipment."

HomePNA Holds Up its Part of the Bargain

Zhone has so enjoyed the many benefits offered by its HomePNA membership that the company has many more HomePNA certified products in the works. "The ability to not only work over coax but also phone wires allows us to create a seamless home network that delivers service to every room in the house," added Bernard. "We have a lot of plans for HomePNA."



For more information on HomePNA, visit the Web site at www.homepna.org.



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