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## **HomePlug, Intellon rock CeBit show**

### **Intel, Linksys praise HomePlug AV**

Over a dozen hardware makers showed off HomePlug-enabled gear using Intellon's 200 mbps HomePlug AV chipsets or ICs (integrated circuits) last week at the CeBit technology show in Hanover, Germany.

Other firms showed off gear using HomePlug's 14 mbps standard and Intellon's 85 mbps HomePlug 1.0 with Turbo (vendor list below).

Intellon CEO Charlie Harris reports sales growth that to him confirms "our worldwide leadership."

The leadership is in technology, chip sales, service providers with deployments and number of products, he believes.

The European Union's OPERA research group finished its spec based on HomePlug rival DS2's chips.

DS2's had an edge in the media lately as it leveraged its early delivery of 200 mbps chips to the marketplace into deals and headlines.

HomePlug finally finished its 200 mbps HomePlug AV (audio/video) spec and Intellon got chips to market in time for vendors to get sample gear to CeBit.

### **A de-facto standard?**

"Service providers and retailers really appreciate the advantages that Intellon's standards-based ICs bring to the marketplace," said Bill Casby, vice president of sales at San Ramon, Calif.-based Intellon.

As the IEEE winds its way towards the goal line of setting a BPL standard (story this issue) that could set the industry on fire, the main technology camps make the case that their proprietary technologies have been adopted as de-facto standards.

DS2's lead in getting 200 mbps chips to market created market traction that garnered headlines recently with big names such as IBM and NetGear.

Last week HomePlug answered those with its own traction update.

Some deploying BPL consider HomePlug's way "a true global standard based on a competitive selection process" with multiple technology contributors and silicon providers, said Casby.

HomePlug has interoperability now, Intellon reminded.

And the HomePlug Powerline Alliance has something standards bodies tend to create after picking a standard -- an "objective compliance and interoperability testing process," Casby told reporters last week.

HomePlug gear lives in "a complete ecosystem" backed by leading firms in the home networking, personal computer, consumer electronics and service worlds.

The alliance has set "Plugfests" -- where HomePlug vendors gather, plug their systems in and see firsthand how well they work with other HomePlug gear.

Not only BPL service providers are relying on HomePlug gear.

The alliance reminded last week that cable TV and telecom firms -- the broadband incumbents -- are using the gear to network triple play services throughout homes and MDU buildings (details below).

## **Melder on DS2**

"The marginal advantage [DS2] had in the past by having silicon ahead of the market is rapidly approaching a close," Intellon's Andreas "Andy" Melder told us recently.

He's senior vice president for strategic business development at Intellon.

DS2 was able to report having the only 200 mbps silicon -- "a compelling argument" but one that should have materialize into a market advantage if DS2's technology delivered what the industry wants, Melder said.

That didn't happen, he added.

Meanwhile Intellon's shipped over 4.5 million HomePlug-compliant ICs that are deployed on six continents including almost 2 million in Europe, Intellon told the press last week.

That puts Intellon's total power line IC shipments at over 9.5 million units including those shipped before HomePlug picked the firm's chips as its baseline technology.

The upshot of "extensive field trials and competition with other power line communications technologies," said Intellon, is that over 20 service providers worldwide are using Intellon's HomePlug chips.

Why? Because they boost customer satisfaction and speed of self-installs thus cutting the time, cost and disruption of installing home networks, said Intellon.

“We believe we have the most robust technology -- the strongest technology from a performance perspective,” Melder told us.

As for traction, Intellon’s HomePlug chips have been deployed in volume by cable operators and telecom carriers plus satellite TV and WiMax providers in Asia, Europe and North America, the firm reported to the press last week.

Telecom carriers using HomePlug chips to deliver IPTV include France Telecom and its top telecom rival Neuf Cegetel plus Telecom Italia France in Marseille and the parent firm of Hong Kong Telecom called PCCW (Pacific Century CyberWorks).

Service providers using HomePlug for in-premises data networks and to extend broadband service throughout homes include Kirkland, Wash, wireless broadband firm Clearwire ([www.clearwire.com](http://www.clearwire.com)); US cable TV leaders Comcast, Cox, Mediacom and Time Warner Cable plus Malaysia Telecom and Belgian cable internet firm Telenet ([www.telenet.be](http://www.telenet.be)).

Vendors showing HomePlug-enabled gear at CeBit were:

- Taiwanese IT hardware makers Aceex ([www.aceex.com.tw](http://www.aceex.com.tw)), Atech ([www.atechtp.com.tw](http://www.atechtp.com.tw)), Gigafast ([www.gigafast.com](http://www.gigafast.com)), ST&T ([www.stt.com.tw](http://www.stt.com.tw)), triple-play hardware firm Xavi of Sangchung City ([www.xavi.com.tw](http://www.xavi.com.tw)) and broadband gear-maker ZyXel of Hsinchu ([www.zyxel.com](http://www.zyxel.com));
- California gear-makers Asoka of Foster City ([www.asokausa.com](http://www.asokausa.com)), D-Link in Fountain Valley ([www.dlink.co](http://www.dlink.co)) and NetGear of Santa Clara ([www.netgear.com](http://www.netgear.com));
- Global (time ran out before our research determine where headquarters is) computer motherboard and technology maker Asustek ([www.asus.com](http://www.asus.com));
- Singapore’s Aztech ([www.aztech.com](http://www.aztech.com));
- French networking gear firms BeWAN of Courbevoie ([www.bewan.com](http://www.bewan.com)), LEA of Paris ([www.leacom.fr](http://www.leacom.fr)) and Niroda in Vallangoujard ([www.niroda.fr](http://www.niroda.fr)) plus French BPL firm Oxance of Les lucs sur Boulogne ([www.oxance.com](http://www.oxance.com)) and French IT manufacturer Sagem Communications -- a subsidiary of French aerospace, aircraft, defense and communications firm SaFran Group ([www.safran-group.com](http://www.safran-group.com));
- German technology firms Devolo of Aachen ([www.devolo.com](http://www.devolo.com)) and Elcon in Hartmannsdorf ([www.elcon-system.de](http://www.elcon-system.de)), and
- England’s Solwise ([www.solwise.co.uk](http://www.solwise.co.uk)).

### **Multiple HDTV streams**

German vendor devolo and Singapore’s Aztech Systems showed off at CeBit new HomePlug AV gear streaming multiple channels of HDTV and capable of doing video on demand and triple play, said Intellon.

devolo's dLAN 200 Ethernet adapter lets service providers and consumers distribute multiple streams of HD video and digital audio "making them the ideal solution for high definition IPTV, triple-play and multi-media entertainment," said Devolo CEO Heiko Harbers.

The firm's 85 mbps HomePlug Turbo gear was adopted by major European telecom firms for IPTV services, said Harbers.

Adding gear that uses 200 mbps chips would be "logical," he said.

Aztech's 200 mbps HomePlug gear was said to deliver simultaneous HD and standard definition video plus whole-house audio, VOIP and high speed internet.

Add to that Intellon HomePlug chips in gear from Actiontec ([www.actiontec.com](http://www.actiontec.com)), Belkin ([www.belkin.com](http://www.belkin.com)), Current Technologies, dq Technology (stands for DataQuest, [www.dqusa.com](http://www.dqusa.com)), EchoStar (owned by satellite TV leader Dish Network, [www.dishnetwork.com](http://www.dishnetwork.com)), Cisco's Linksys ([www.linksys.com](http://www.linksys.com)), Motorola in its Powerline LV access BPL gear ([www.motorola.com](http://www.motorola.com)), IP-enabled set-top-box maker Sling Media ([www.slingmedia.com](http://www.slingmedia.com)), SMC Networks ([www.smc.com](http://www.smc.com)), BPL for MDU firm Telkonet ([www.telkonet.com](http://www.telkonet.com)), power surge suppressor specialists TII ([www.tiinettech.com](http://www.tiinettech.com)) and digital surveillance vendor Wilife ([www.wilife.com](http://www.wilife.com)), Intellon said.

### **Slicing a bigger pie**

As the market for HomePlug-enabled gear grows, other silicon firms will start making the HomePlug AV chips, said Melder.

First in line to follow Intellon's lead are Arkados, Conexant Systems and SpidCom Technologies, said HomePlug at CeBit last week.

It's all about HomePlug, not Intellon, Melder reported, since HomePlug creates the working standard and Intellon will continue to keep a slice of an ever-bigger shared "pie."

As the in-premises BPL market grows from basic home networking to "the guaranteed delivery of multimedia content," many of Intellon's customers are developing Ethernet adapters and products with the 200 mbps chipset embedded, said the silicon maker.

New products on the way include advanced DSL gateways, WiFi access points, IP set-top boxes and networked entertainment and consumer electronics devices.

All this in-premises activity will have a dynamic effect on the BPL hardware market-driving prices down as manufacturing and distribution chains grow more efficient and supply starts meeting growing demand.

## **Intel chimes in**

Since August last year, HomePlug membership has grown over 30% to 65 member firms.

Intel joined in August (BPL Today, 8/29).

“You won’t see Intel joining three or four different competing groups just to hedge their bets,” predicted Melder.

Sony saw fit to join three, we’ve reported, probably hoping to help steer the process while others took a wait-and-see approach.

Intel did “an amazing amount of diligence and research and testing all these technologies before they made their decision” to join HomePlug, Melder added.

Intel expects HomePlug-enabled product shipments to continue an “upward spiral as the HomePlug technology adoption rate” grows this year, said Matthew Theall.

He took over as HomePlug president in August and he’s Intel’s marketing manager for bridge products.

Intellon-based 200 mbps gear took the stage during the keynote address at the spring 2006 Intel Developer Forum this month where it was teamed with a computer using Intel’s Viiv technology (BPL Today, 8/29, page 4, column 3 near top).

Viiv is Intel’s silicon component of its teamwork with Microsoft to make sure computers play a significant role in home entertainment as digital consumer electronics evolve.

People’s lives are becoming ever more dependent on digital media for communication and entertainment -- digital photography and home movies, downloadable music and video content, VOIP, email, online gaming, internet-based shopping and content delivery and much more.

But the PC was designed for business and thus Intel, Microsoft and others are creating home entertainment gateways -- similar to a set-top-box yet with the abilities of a computer.

Such systems need highly robust networking to deliver content throughout the house.

HomePlug AV-based gear at IDF delivered “action-packed gaming content and [HD] video over in-home power wiring with plug-and-play ease and Ethernet-like confidence,” said Intellon.

The demo was on the stage as part of Intel's Digital Home Group keynote address plus Intellon had a booth showing off media streaming.

"The digitally connected home must have a fast, secure and reliable network backbone to serve as the super highway for digital content," Intellon reported.

### **Linksys plugs HomePlug**

The Cisco subsidiary may have come but lately to the BPL game but its allegiance to HomePlug was put to rest last week.

HomePlug members "will soon be deploying the first of millions of products that will be shipped to customers worldwide," said Matt McRae, senior director of worldwide business development at what HomePlug neatly called "Cisco-Linksys."

Cisco famously created much of the hardware that was used to create the internet.

"HomePlug members have joined this alliance because it is the only open-standards based power line group offering a robust compliance and interoperability program, industry interoperability 'plug-fests' and coexistence with millions of HomePlug products already in the market," noted McRae.

The alliance is working "in the IEEE and ETSI to achieve a global interoperability and coexistence mechanism," he added.

"With this program, consumers can be sure the power line products they use in their home meet stringent requirements to guarantee they work well together.

"The HomePlug Alliance is the only power line organization with a comprehensive program in place to deliver all these ingredients," urged McRae.

### **Yitran wins latest bake-off**

The Beer-Sheva, Israel silicon firm Yitran Communications won out over eight competing chipmakers in the "bake-off" or competition for HomePlug's command and control layer specification, HomePlug said last week.

Command & control (C&C) is an integral part of internet protocol and the communications realm of machines that talk to machines -- such as surveillance cameras, security systems, HVAC equipment, appliances and many others existing and imagined -- that may need less bandwidth than HDTV and other entertainment specs but that pose their own special needs and challenges.

The criteria for comparing C&C technologies were based on a market requirements document (MRD) developed by HomePlug members, said the alliance.

Field and laboratory tests narrowed the proponents to three before the “bake-off.”

The spec is the result of 10 years of work, reported Yitran CEO and co-founder Avner Matmor.

General Electric Security plans to produce gear using the new spec and to work with HomePlug’s Command & Control Specification Working Group, said Jeff Wilson, the firm’s vertical market manager.

That group will write a spec based on Yitran’s technology to ensure that silicon firms worldwide can create HomePlug-compliant gear, said HomePlug.

“I’m very excited to see this effort bring unification to what has -- until now -- been a niche industry,” said HomePlug Chairman Pete Griffin, director of corporate technology for Radio Shack.

He was encouraged, he added, to see the competitors in the selection process support Yitran’s solution and stay committed to the goal of the alliance.

The spec is to be ratified in Q3 of this year and all interested parties are invited to join the alliance and contribute to the development of all its specifications.

### **Not a “home-body”**

HomePlug competitor DS2 may say HomePlug is a home-oriented technology but it’s not true, said Melder.

Current’s been using HomePlug gear to deliver North America’s biggest deployed BPL access network with Ohio IOU Cinergy, he reminded.

HomePlug’s 200 mbps AV standard works great for access BPL.

So why is HomePlug working on a yet-to-be-released access BPL HomePlug standard, we asked.

The physical layer of the HomePlug access BPL spec is the same but the machine layer will be designed to better use the spectrum for broadband access deployments, he explained.