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Skyworth to Use Marvell's Chips in World's First G.hn-Enabled Smart TVs

- Plug 'n Play on China Telecom's Pay TV Network

- HomeGrid Starts with Bangs from 2014

Following a three-month period of silence since John Egan left as president of the HomeGrid Forum, G.hn has come roaring out in 2015's CES with some startling announcements.

First the big news:

G.hn and Wi-Fi chipmaker **Marvell** has landed a deal under which **China Telecom** has worked with TV setmaker **Skyworth** to launch the world's first smart TV with embedded G.hn powerline technology. Skyworth's E690C smart TVs have Marvell's 88LX3142 G.hn digital baseband processor and 88LX2718 G.hn analog front end.

Homes that have the Skyworth E690C smart

TV do not need a pay TV set-top box, Wi-Fi or wireline Ethernet because they automatically connect over the home's powerline. China Telecom subscribers plug separate G.hn wall-plug adapters into electrical outlets near the broadband gateway and then plug their Smart TVs into the any wall electrical outlet. They get instant and fast Internet access in any part of the house. G.hn-enabled Skyworth TVs do not require any new cables.

It's a big market! The G.hn capable Skyworth TVs are available to China Telecom's more than 25 million pay IPTV subscribers.

It's big news! A consumer's dream (and a dream of makers of powerline products) is to have:

A) A modem/gateway with embedded

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4 Things Dish's Sling TV Gets Right

- And a Few Things It Got Wrong...

- And Why It May Be the Most Important Thing that Happened during CES Week

Dish Network unveiled its Internet TV service, called Sling TV, at CES this week, about six months after it first announced its intentions to target millennial viewers with an OTT offering. Dish described Sling TV as a "next generation service that meets the entertainment needs of today's contemporary viewers."

The over-the-top multi-channel video package offers 12 live linear pay TV channels that viewers can watch on mobile and connected devices for a very palatable \$20 per month, plus two add-on channel packages, for an additional \$5 per month each.

"Sling TV provides a viable alternative for live television to the millennial audience," said Dish president and CEO Joseph Clayton. "This

service gives millions of consumers a new consideration for pay TV; Sling TV fills a void for an underserved audience."

The service is available anywhere there is an Internet connection, via Wi-Fi or mobile. Viewers can pause, rewind and fast-forward "most" live content, Dish said, and some channels offer a three-day catchup window for content.

Roger Lynch, who was named CEO of Sling TV, said the service is a "game changer." "Consumers can now watch their favorite shows on their favorite devices that they already use to watch video," he said. "The arrival of Sling TV lets consumers, who've embraced services like **Netflix** and **Hulu**, take more control of their video entertainment experience."

At a panel discussion at CES this week, Jason Henderson, senior product manager of iTV at **Dish Network**, told an audience that

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“Our industry-leading G.hn solution powers an immersive smart TV experience for consumers by providing simple and convenient connectivity to any location in the home through the existing powerline infrastructure.”

“The new product will become the hub of entertainment in smart homes, delivering extensive in-home information services including convenient living, education, health-care, shopping, games, and entertainment, etc, to provide consumers with ease and convenience.”

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powerline technology that, when you plug it into an electrical outlet, makes the home's electrical wires a whole home networks, and

B) CE devices with embedded powerline technology so that when they are plugged into an electrical outlet, they are connected to the home network and can access the net. CE devices that could benefit from such a scenario are smart TVs, Blu-ray player and set-/net-top boxes (Apple TV, Roku and such), stereo/receivers and Wi-Fi adapters, yes, Wi-Fi because such a wireline network could extend the home's Wi-Fi coverage.

It's true plug 'n play, not plug plug plug and then play.

Weili Dai, president and co-founder of Marvell, said, “I am very excited to see this game-changing, innovative product that transforms the traditional TV experience to enable seamless access to content and services. Our industry-leading G.hn solution powers an immersive smart TV experience for consumers by providing simple and convenient connectivity to any location in the home through the existing powerline infrastructure.”

Liu Tangzhi, GM of Skyworth's RGB TV company, said, “Going smart is definitely the trend for the development of the TV industry. Skyworth and Marvell have created the industry's first smart TV with the integration of G.hn technology and achieved mass production through our joint efforts. The new generation of Smart TVs will provide immediate broadband connection with plug-and-play simplicity, and give consumers an extraordinary experience by providing high-quality HD video.”

Liu Ping, GM of the marketing department at China Telecommunications, said, “We're very excited to join hands with Skyworth and Marvell, leaders in the industry, to unveil the first ‘Yue Me’ platform-based smart TV, the Skyworth E690C. The new product will become the hub of entertainment in smart homes, delivering extensive in-home information services including convenient living, education, healthcare, shopping, games, and entertainment, etc, to provide consumers with ease and convenience.”

Marvell's G.hn chips can provide powerline, coax and phone line networking in a single chipset. That reduces the cost of product design and the time it takes to get a new product to market. Marvell said it “enables data transmission rates at four times greater than that of other legacy systems” — no doubt meaning HomePlug and MoCA, both of which against it competes in wireline home networking.

Q&As with Marvell

We asked Marvell several questions about the Skyworth TV for CT subscribers and received these answers as we went to press:

The Online Reporter: Does China Telecom furnish a modem or gateway with G.hn embedded?

Marvell: The Skyworth Smart TV will be sold with a small G.hn adapter that will be connected to the existing residential gateway at the subscriber home. This is the first product launched by CTC [China Telecom Corporation] with embedded G.hn.

Q. Are the TVs available now?

A. The TVs are being demonstrated at the Home Grid Forum booth at CES but we unfortunately do not have the exact dates of availability.

Q. How much are the TVs?

A. We don't have that information yet.

Q. Are they UHD or HD? Or both?

A. They are UHD 4K TVs.

Q. What size is the screen or are there multiple models?

A. There are multiple models: 32-, 42-, 50- and 55-inch. The smart TV on display at CES is the 50-inch model.

Q. How does the customer connect a tablet or smartphone to the network?

A. The Skyworth Smart TV also comes with Wi-Fi hotspot connectivity.

It's impressive that the TVs are UHD TVs, not the now out-of-date traditional 1080p HD TVs. We have heard repeatedly that China is the largest UHD TV market in the world and this seems to confirm that.

Having a Wi-Fi hotspot built into the TV is a smart move because it simplifies customer set up and use.

We think that CT, and other like-minded telcos,
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will eventually specify that the gateways it buys have G.hn chips embedded in them to a) make it easier for subscribers to install and b) reduce total costs as well as simplify procedures.

CES Booth Shows Off G.hn Goodies

At CES the HomeGrid Forum's booth, much like last year's, had multiple vendors demonstrating interoperability over networks, simulating operation in MDUs.

The booth demonstration, as might be expected, showed G.hn networks delivering multiple streams of 4K videos to UHD TVs over powerline. HGF said that for the first time it was demonstrating smart TVs and routers that have G.hn embedded in them – a major accomplishment for powerline network technology.

All these projects were underway prior to John Egan's departure as president of the Forum.

Equipment makers were demonstrating each of the three G.hn system types — powerline, phone line and coax. There was a line of **ARRIS** home gateways, routers, Wi-Fi adapters and Wi-Fi extenders at the booth using G.hn over powerline, which will be available in the States mid-year 2015.

HomeGrid also announced the recently accredited test house Allion labs has opened for certification testing.

HomeGrid members were also showing how G.hn handles "Neighboring Networks" interference

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Dish is embracing the new Internet TV movement, rather than hiding from it.

"The reason for that product existing is because we knew that there were customers who want to see a paired-down package, who want to pay less money and live a different kind of life style, who want to access a slew of channels over the top," Henderson said. "There's no stopping this. You can either beat your head against the wall and say 'no no no, that's not reality,' or you can actually start developing products for them. Will it be the beginning of a whole bunch of OTT services? Who can say? We're very excited about it, and we absolutely believe there will be complementary and additive benefit for us."

in MDUs, which it says is a major differentiator between G.hn and HomePlug — a criticism that the HomePlug Alliance denies and was demonstrating in its booth.

Global Momentum for G.hn Grows

In addition to the China Telecom announcement, **KT Corporation** (formerly known as Korea Telecom) formally joined the HomeGrid Forum (HGF). KT Corp announced in early 2014 it is using G.hn in an access technology, called G.now, in its broadband deployments. Don Gardenhire, an ARRIS executive who is serving as HGF's interim president, told *The Online Reporter* KT Corp has already begun deploying G.now gear to MDUs, which Gardenhire said is helping it deliver hundreds of megabits per second to subscribers' apartments over KT Corp's existing copper infrastructure.

"KT Corporation is using G.hn for access; many thousands of those are already deployed," Gardenhire said. "China Telecom has selected it and is beginning deployments with consumer devices. Chunghwa Telecom in Taiwan has publically selected it, but has not yet started deploying."

He said 2015 would be a big year for G.hn. He was correct of course because of the work Marvell put in during 2014 to land the China Telecom-Skyworth deal in which Skyworth will make smart TVs with G.hn built in, making it easier and faster for CT's subscribers to install and start watching CT's pay TV.

4 Things Dish Got Right with Internet TV

As one of the first Internet TV services to launch in the States, Sling TV is a pretty neat offering. Dish was able to check a number of important boxes with its launch:

1) The price tag: Sling TV is only \$20 a month.

That's an impressively low price tag for any Internet TV service that includes live pay TV channels. The \$20 price tag comes with "no commitment, contract, credit check or hardware installation required," the company said.

Part of that low price tag is no doubt due to the fact that Dish was able to strike full streaming rights deals with only two content owners, **Disney** and **Scripps Networks Interactive**. But with those two content partners, in addition to two **Time Warner** pay TV

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