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Satellite carrier ID effort makes headway, SUIRG president says

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SUIRG's efforts to promote the adoption of technology that inserts identification information about satellite uplinkers into a digital video data stream will help instantly identify the source of satellite interference so it can be shut down.



Say the words "satellite transmission" to a telco rolling out an IPTV service, and the first thing that probably comes to mind is competition in the form of a direct-to-home (DTH) satellite subscription services like DISH Network or DIRECTV.

But that's not even close to the whole story when it comes to the relationship between satellite communications and IPTV. Satellites provide a vital link for distribution of aggregated TV programming to IPTV headends, especially to operators in smaller communities and rural areas. However, despite the best efforts of those aggregators to distribute content in a pristine form, errant satellite links from other uplinkers occasionally can cause interference resulting in downtime and added expense.

The Satellite Users Interference Reduction Group (SUIRG) is dedicated to wiping out interference. *IPTV Update* caught up with Robert Ames, president and CEO of the group, to discuss what progress it is making with technology that inserts ID information into satellite digital video signals.

IPTV Update: Could you describe the Satellite Users Interference Reduction Group (SUIRG)'s involvement in establishing carrier identification for satellite uplinks?

Robert Ames: One of the things we focus on closely is working with the World Broadcasting Union (WBU)'s International Satellite Operations Group (ISOG). We meet a couple times a year, and we are a major contributor to each meeting there.

Of late, one of the most important broadcast-related items to have come up is the whole issue of carrier identification. The WBU/ISOG brought that up about three years ago, and we assumed the responsibility of dealing with this issue and took it on as one of our tasks, because we are the only global organization solely focused on satellite interference.

A few years ago, most times when you have interference, the only thing an operations center would know is it's coming up from the surface of the earth.

When satellite operators started putting in systems that operations centers could use to isolate where interference was coming from, the first comment from the center operators was if we could zero on the uplink to a continent, that would significantly reduce the number of contacts they needed to make. But now, we are well beyond that.

What we are trying to do now with carrier identification capability is take the next step. The fact that the carriers are pretty much all digital, and definitely will be by February 2009, makes identifying the source of interference a lot easier to deal with than analog.

Based on that premise, we worked with the encoder companies and were able to successfully demonstrate that you could take a segment of the digital stream and insert some basic contact information, including not only who owns the equipment, what their addresses are and their telephone numbers, but also integrate with a GPS system to get the latitude and longitude inserted into the uplink so there is no question about where it is originating the signal.

That was successfully demonstrated in December 2006 at a WBU/ISOG meeting in Washington, D.C. In 2007, we pushed that forward showing the various manufacturers that this was easy to do. This year, Advent Communications actually has a product on the market that has this specification built in. It's called the DVE-5000 satellite exciter that is used for uplinking digital video signals.

The people who developed the technology were Link Research. They did so because they recognized this was a major problem. They are willing to give this to anybody, as it is all open architecture, and anyone who wants access to their software to insert this in their own encoders can work with Link Research.

At the last WBU/ISOG meeting in Croatia, a Link Research representative took on the responsibility of working with the MPEG encoder companies to get this inserted into their standard. What we are pushing for is wide-scale adoption.

You can build all of these systems and have the capability, but if companies do not put this requirement into their specifications, then no one is going to do it. Now, we are pushing for the user community to state that it wants this in its equipment. When they write their technical specifications, they have to write in the requirement for the carrier identification capability. Hopefully, from some point forward, all of the digital uplink equipment will have this capability and all of the old analog equipment will gradually fade away. Eventually, this will become the new standard on the uplink equipment.

IPTV Update: Could you please clarify your comment about the February 2009 switch to digital? Doesn't that only pertain to terrestrial broadcast and not to satellite uplinking?

Robert Ames: The broadcasters — especially for the evening news — are sometimes getting their feeds in 20 minutes before they go live. So, they don't want to have to do any conversions they don't have to do. If they can pull feeds as digital and then put them into their uplink system and put them right out into their newscast, things will be real easy for them.

IPTV Update: Your comments seem to be concentrated on the satellite newsgathering aspect of satellite service, but doesn't this issue touch all aspects of video transmission, including distribution of programs to, for instance, IPTV headends from program aggregators?

Robert Ames: Actually, we are going for across the board. The SNG industry has been the one that has really stepped up to this. We have a number of people in satellite newsgathering who are rallying behind us with their complete support. As far as broadcasters in general, they all want it. They want it, but, in my opinion, they don't want to pay for it. If it becomes a standard, they will have to adopt the carrier identification technology.

IPTV Update: Are there any other advantages that carrier identification technology offers?

Robert Ames: Yes. For example, when someone is doing a lineup, they can easily pull from the data stream going to them the kind of equipment on the other end. Today, it occasionally happens that people will say they have one type of encoder in use, but when they go online, they have something else. As a result, the initial lineups get extended out until they find out what the problem is. With carrier identification in place, they will immediately know what kind of equipment is on the other end, and the satellite service provider — such as Intelsat or SES Americom — can very quickly reassign their uplink equipment to match it.

We are continuing to look at the other aspects of it. If you open the door here, we are going to walk through it and take maximum use of this capability.

IPTV Update: Where does the United States stand in terms of overall satellite interference that gets created?

Robert Ames: We have members in 19 countries, but when you start looking at interference statistics, a good portion is coming up from the United States just because of the sheer number of antennas.

IPTV Update: While the carrier identification technology is an important strategy in reducing interference, what other efforts is SUIRG employing to accomplish that goal?

Robert Ames: Eighty-five percent of all interference is unintentional. It's just someone made a mistake. So, we work on training issues. We work with a number of training companies to get their training courses focused on how interference is caused. Prior to

that effort, the subject was not even addressed. We work closely with various training companies. We provided SUIRG-certification to their training courses. Another effort this year is to build a database of SUIRG-certified operators.

We also are working with the satellite operators. Many times when you have interference, you don't know if it's interference generated by a satellite uplink or some other source. So, we are working with operators worldwide to catalog case histories of interference incidents. That way, members can review past interference episodes on the Internet and compare waveforms. If I'm seeing a certain waveform and look through the database and find something that matches — because it will match — they can know exactly what is causing the interference.

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