

New Cable Upstream Solution Could Vastly Expand Bandwidth Availability

May 30, 2006 – Cable policy control supplier Camiant, Inc. is marketing a new approach to use of “unattended” upstream channel capacity that could eventually go a long way toward alleviating bandwidth constraints imposed by the narrow range of spectrum available for return communications over cable networks.

In a new partnership, Camiant and Casero, provider of white-label personal media management solutions for broadband SPs, are offering a means by which consumers can upload photos, video, music and other large files to a hosted backup site over unused portions of the cable upstream spectrum. The key to enabling this bandwidth-saving approach is the control over network bandwidth utilization that is intrinsic to the policy control mechanisms of the PacketCable Multimedia standard, which is part of cable’s broadband DOCSIS (Data Over Cable Service Interface Specification) regime.

While cable operators now use only the portion of upstream bandwidth, usually consisting of just one or two 6.4 megaHertz spectrum slices, that is deemed sufficiently robust to support real-time communications, including voice, there is a substantial additional amount of spectrum available within the 5-42 MHz upstream “subband” that could be used to deliver less noise-sensitive, non-real-time communications, such as file uploads. Indeed, when it comes to efforts to temper the impact of peer-to-peer bandwidth consumption, now representing the lion’s share of bandwidth utilization over broadband access networks, such capabilities could have a dramatic impact.

“We’re looking at other ways other applications could benefit from use of this capacity,” notes Randy Fuller, vice president for business development at Camiant. He declines to speculate on the nature of such applications.

But he makes clear that any such uses would have to be worked out in conjunction with ongoing technical and strategic discussions with cable operators. And they would require direct communications between the specific application and the policy server that communicates with the cable network. Such a communications link is intrinsic to the deal between Casero and Camiant.

Total upstream throughput over the coaxial portion of today’s more advanced cable networks tops out at around 60 megabits per second if about 12 MHz of the available spectrum is used in conjunction with the upstream mechanisms of the DOCSIS 2.0 standard. Only a third or less of that capacity is available over pre-DOCSIS 2.0 deployments.

Since this is shared bandwidth, operators typically market broadband services with per-customer upstream rates capped at anywhere from 512 kilobits per second to 1 mbps. For people using Casero’s network-based storage to back up a big photo file of, say 5

gigabytes, it would take 22 hours to upload the content over a 512 kbps connection, Fuller notes. “And, of course, the use of upstream for such applications can contribute to congestion that affects other users,” he says.

Shifting that upload to an unused portion of the upstream spectrum where shared usage would be minimal would throw open a wide swath of spectrum for the upload. Such spectrum might have too much interference from outside RF sources (ingress noise) to be used in normal transmissions, but in the case of file uploads the TCP/IP mechanisms of IP transport simply resend packets that are blocked in the transmission path.

Thus for a given file upload over one of these unused channels the transmission time could be cut by one or more orders of magnitude. Such speed gains are especially crucial in markets where cable operators are competing with Verizon’s FiOS broadband service, Fuller notes.

The Camiant and Casero integration, currently being trialed by an unnamed “major U.S. cable operator,” ensures subscribers can upload media faster, without interrupting other upstream traffic, while also improving overall network performance for all subscribers, Fuller says. The result, he adds, is a better customer experience resulting in reduced customer service calls and less subscriber churn.

As previously reported (ScreenPlays Magazine, November, p. 16), Casero’s Personal Media Platform provides a single, centralized location for subscribers to store, share, manage and access their personal media for all devices. Camiant’s policy server, the Multimedia Policy Engine (MPE), provides real-time control of network resources for value-added applications and subscribers. When a user uploads media, Casero’s Personal Media Platform alerts Camiant’s MPE to create a larger, dedicated service flow so that the backup service is fast and independent of other traffic.

“Casero’s Personal Media Management Platform allows broadband providers to offer a complete online backup, management and sharing solution for user’s photographs, music and other precious personal media,” Fuller says. “By adding policy control, operators now have the means to assure the highest level of service to increase subscriber loyalty.”