



Devils in the Details of Managing a Successful PPV Service

By Bruce Bahlmann, CEO ■ *Birds-Eye Network Services, LLC*

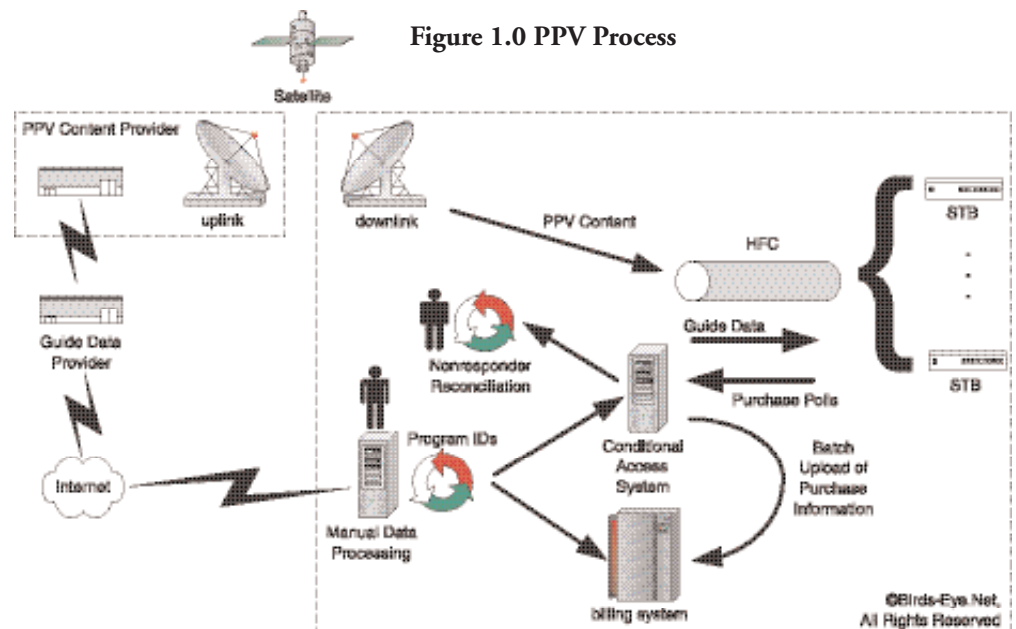
Pay-Per-View (PPV) is big business whether you sell movies to your private cable operation subscribers or in-room movies to apartment residents, hotel guests, or university students. In 2002, PPV brought in a whopping \$2.4 billion—more than a quarter of what was taken at the box office and more than a third of what rental movies grossed. PPV revenues amounted to about 2.5 movie purchases per active PPV cable subscriber or about \$12 in gross revenue per active PPV subscriber. Video service providers offering PPV net about 50% of gross PPV revenue on average.

Although these revenues for PPV intrigue many operators (e.g. cable operator), the process of implementing and maintaining PPV is significantly less glamorous. Veteran operators will tell you the devil is in the details and in the case of PPV, nothing is farther from the truth. The process of offering and collecting for PPV movies involves a number of different steps the result of which average between 80-90% reliability. In other words, up to 20% of your subscriber PPV buys generally can go unrecorded during the month they take place. Some purchases are unable to be associated with subscribers and become orphans—or completely written off as uncollectible. How can this happen and how can this be fixed? In this article we'll provide you with a behind the scenes glimpse of PPV and some promising new ways

to get your arms around some of its inherent inefficiencies.

Figure 1.0 describes the inter-workings of PPV from an extremely high level. From left to right, the process begins with the PPV content provider. The PPV content provider defines

used by both the billing system and the conditional access system to identify this program during the month it is used. Since most conditional access systems are relatively old, they do not support very large program ID numbers—a majority of these systems only



their program lineup and queues this content up to be transmitted to their subscribers (operators) via a satellite uplink. Up to a month before the actual video content is transmitted, details of the programs, times, etc. are communicated to a data provider who assembles this textual information into a neat package that is then sold to operators to use for billing and to support their electronic program guide (EPG). Operators receive this raw information and then associate a unique internal number and price to each and every PPV program. The unique number is called a program ID number and it is

support a four or five digit number. The implication of this is that only 9,999 or 99,999 programs can be offered each month before the unique program ID number must be recycled (reused).

A single PPV channel offering 24 hour movies could potentially use up to 384 program ID numbers a month. That is essentially one program ID number every 90 minutes for an entire month.

An operator using a conditional access service that only supports a four-digit program ID number can at most support 26 unique PPV channels a

month where as an operator that supports a five-digit program ID number can support up to 260 unique PPV channels a month. Regardless of how many program ID numbers a conditional access system can support, most operators have been trained by the limitations of previous equipment to recycle their program ID numbers monthly—that also coincides with the fact that their conditional access systems only maintain two-to-four weeks worth of programming information at a time. As a result, the additional number of available program ID numbers generally translates into increasing the number of PPV channels an operator can offer on a monthly basis.

Typically smaller operators only host a handful of PPV channels. Larger operators will host up to 26 while very large operators may offer up to 50 (or more) PPV channels. Although a number of PPV channels offered by the large operators are being converted to Video on Demand (VoD), it is not believed that VoD will completely replace PPV anytime soon. A number of key programs like college football, professional wrestling, and boxing remain very profitable PPV content. In fact, PPV may continue to receive first run movies before VoD and/or be priced less than VoD movies. As a result, PPV may coexist with VoD indefinitely.

Once all programs have been assigned a price and a unique program ID number, this information is uploaded into the operator's billing system as well as the conditional access system where it will wait until just days before the programs are transmitted from the PPV content provider. At this time, the conditional access system broadcasts the program information down the last mile (e.g. cable plant) for set top boxes (STB) to store. STBs generally store anywhere from 5-7 days worth of programming information. Unlike video on demand (VoD) that allows subscribers to purchase and immediately view their selection, PPV must be purchased in advance of the movie starting (generally this interval can be as much as days before the pro-

gram starts or if the movie just started it can be purchased and viewed up to 5 minutes into the movie). However, once a PPV movie starts it cannot be paused, rewind, etc., rather it works like any other live broadcast. The program guide information is necessary to enable the viewer to purchase the movie from their STB as it tells them

exactly what they are buying.

When a subscriber finds a program they want to view, they simply buy this via their remote and wait for the program to start. PPV programs start at staggered intervals so it is pretty easy to find something acceptable to watch within a convenient amount of waiting time—this is especially true

Need flexible programming options?

Call SMS.

We have transport services available for most programming through



Call

800.788.8388

www.smstv.com

Established 1985

if the operator offers 20 or more PPV channels. When you purchase the program, everything happens within your STB. Meaning, the STB force tunes to the channel where the PPV movie resides just seconds before it starts (in case the user is watching something else) and then permits the movie to be watched on an otherwise unavailable channel. The PPV content provider distributes the movie content via satellite to all operators. Operators in turn pull this information off the satellite and then send it down to their STBs. Behind the scenes, the STB records the program ID number, time, etc. about the pro-

purchase requests, operators settle for performing nightly polls to collect and clear PPV purchases from individual STBs. This "store and forward" approach is the generally accepted way to collect both PPV and some VoD purchases. Upon completion of the purchase polls, this information is eventually uploaded by the billing system where it can be appended to the customer's account in preparations for being figured into the end of the month billing cycle and the whole cycle starts all over again.

Reconciliation Activities

The purchase polling method has its

"The implication of this is that only 9,999 or 99,999 programs can be offered each month before the unique program ID number must be recycled (reused)."

gram purchased. This information remains protected and stored within the STB until it is retrieved by the conditional access system. When the movie ends, the channel becomes unavailable again. However, before the movie can be billed to the customer, the conditional access system must perform a successful purchase poll on the STB to collect and clear all purchases.

PPV purchases could just as easily be negotiated with the conditional access system at the time of purchase rather than stored on the STB for later collections. In this way, there would not be a need to regularly collect purchase information from individual STBs because the conditional access system already has this information. However the problem with this method is that purchase requests for popular programs or events could potentially overwhelm the conditional access system thus preventing some users from buying their desired program. Rather than depending on an always-available conditional access system to handle real-time PPV

downfalls. The most serious issue being the fact that it requires an upstream channel between the STB and the conditional access system. Large operators are especially impacted by this requirement as most dedicate their premium upstream channels (those with the least amount of noise and interference) to telephony and high-speed Internet services. The remaining upstream channels available for STBs are marginal—this adversely impacts successful purchase polling of STBs. As a result, an appreciable number of STBs on an operator's system become what is called "non-responsive." They are non-responsive due to the fact that they have failed to respond correctly to ongoing purchase polling that is performed by the operator's conditional access system. An operator can see as many as 20% of their STBs become non-responsive and this number fluctuates. Hidden within this number is a small percentage of STBs that have been adversely affected by subscriber tampering (such as moving their STB to a new room which is fed by a splitter that is

not two-way capable). The number of subscriber-tampering causes of non-responding STBs is believed to amount to about 1-2% of the overall non-responding STBs. The remaining percentage of non-responding STBs are considered self-inflicted by the operator either through their use of marginal upstream channels, inadequate plant maintenance, or even improper STB installation. Since operators cannot be ruled out, the possibility that the source of the problem lays within the subscriber's home, the only way to positively correct a non-responding STB is to schedule a service technician to visit the subscriber's home.

While operators are now favoring STBs that feature a DOCSIS out of band data channel that can exploit this more reliable connectivity to conduct their purchase polls, a majority of their STBs still use the proprietary upstream channel located within a marginal area of their upstream spectrum. When these STBs turn non-responsive, manual efforts are expended in order to do what is necessary to permit a successful purchase poll and reconcile whatever PPV purchases are currently stored on the STB. These manual processes have been known to decrease non-responding rates down to the 2-5% range – an improvement that requires significant personnel commitment to achieve. In fact, the level of effort needed to bring non-responding STBs below 5% increases exponentially with each percentage of improvement. Most operators cannot economically antae up this many resources to manage these non-responding lists and thus fall into the 5-10% (or more) range. Some operators refuse to manage the list at all or simply disable PPV services on these non-responding STBs until such time a service call is required at the subscriber's residence.

The economic impact of non-responding STBs can be significant. On average, each non-responding STB costs the operator \$9.65/month which includes opportunity costs and labor costs to resolve the matter. Each responding STB nets the operator about

\$6/month in revenue on average. Each percentage of non-responding STBs costs the operator about 1.89% in costs and lost revenue. For example, an operator with 10,000 STBs receiving PPV with a 15% non-responding rate produce a PPV revenue stream of about \$51,000 but also create a combination opportunity cost and actual cost of \$14,475. If you only take into account actual expenses of each non-responding STB this cost is much lower (\$2.45 per non-responding STB). Unfortunately, if you cannot resolve these non-responding STBs within one month, the PPV purchases stored on the STBs could become orphans. Meaning, their program ID number becomes associated with a different program. These subscribers could argue that if billed for that incorrect program they could refuse to pay it upon the grounds that it is improperly identified. Ultimately any STB that has been non-responsive for more

than 30 days is generally beyond help and may ultimately be written off. The resources required to resolve these STBs (those non-responding more than 30 days) produce diminishing returns as the chance for successful reconciliation decreases with each day.

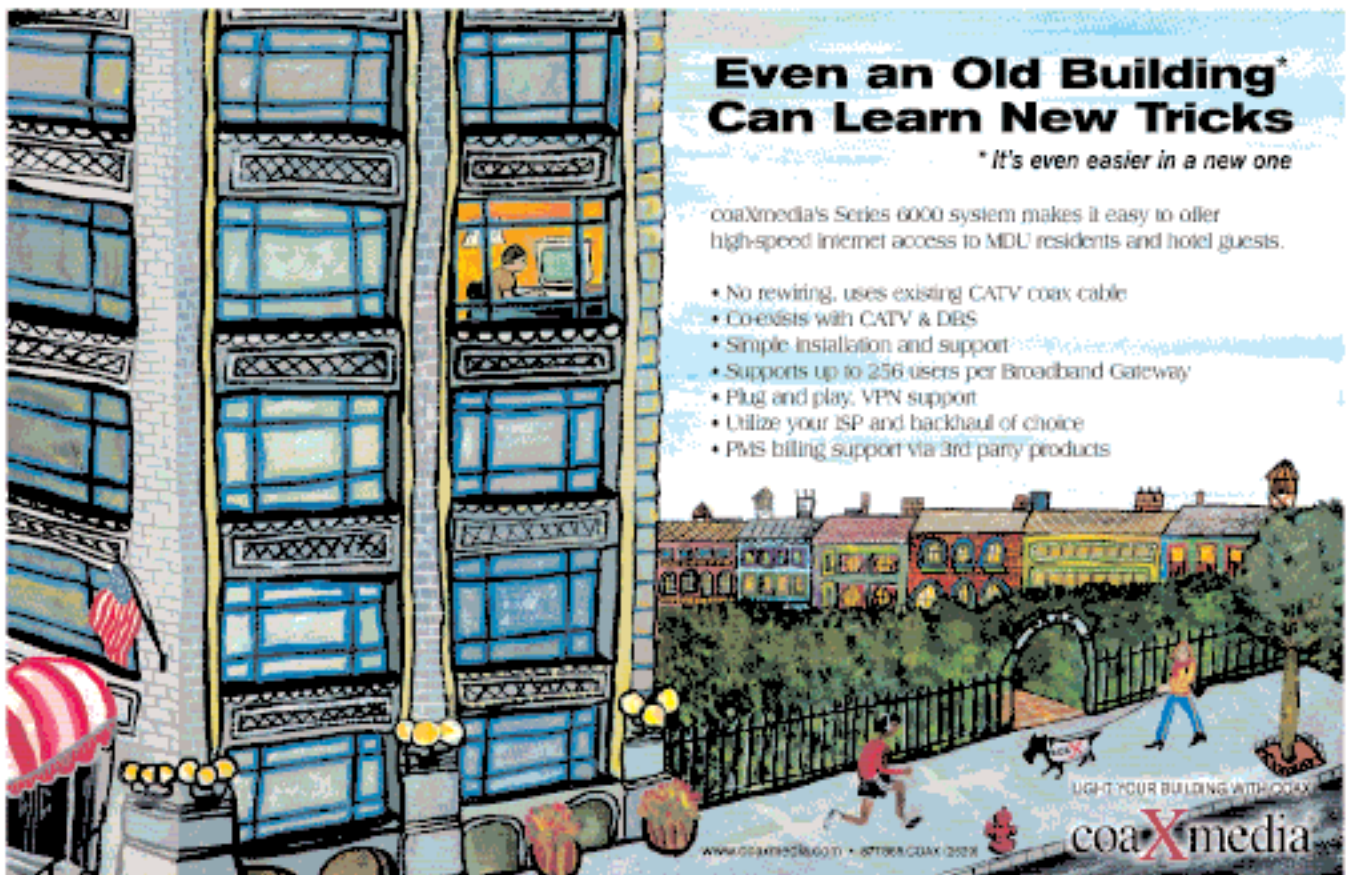
Successfully Resolving Non-responders

Some exciting new ways to successfully tackle non-responders has recently surfaced. The key to these solutions is the result of extensive analysis of what is causing non-responders. These solutions break out plant causes, customer causes, device causes, and installation causes. Together these causes can be compared and contrasted at different levels to formulate the most probable smoking gun. In contrast to this multi fascist approach, most operators rarely employ technology or automation in their efforts to resolve nonresponding STBs. In one notable in-

stance where automation proved especially effective, a large group of nonresponding STBs were associated with a particular interface card and once the suspected card was replaced all these STBs began responding normally—a savings of dozens of phone calls to these subscribers as well as quite a number of service calls, none of which would have ever been able to find the actual source of the problem. These solutions may pave the way for enhancing and speeding the resolution of problems for other services as well. ■

About the Author

Bruce Bahlmann is CEO for Birds-Eye Network Services, a provider of market research, authoring, competitive custom development, and a growing array of network monitoring and reporting solutions. He may be reached at 651-398-4679 or info@birds-eye.net.



Even an Old Building[®] Can Learn New Tricks
** It's even easier in a new one*

coaXmedia's Series 6000 system makes it easy to offer high-speed internet access to MDU residents and hotel guests.

- No rewiring, uses existing CATV coax cable
- Co-exists with CATV & DBS
- Simple installation and support
- Supports up to 256 users per Broadband Gateway
- Plug and play, VPN support
- Utilize your ISP and backhaul of choice
- PMS billing support via 3rd party products

www.coaxmedia.com • 877.663.COAX ©2003

LIGHT YOUR BUILDING WITH COAX
coaXmedia