

# TECHNICAL CONSIDERATIONS WHEN IMPLEMENTING PAY PER VIEW

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## ABSTRACT

Many cable television system operators are currently considering implementing and offering pay per view programming. If they have an existing addressable system that decision seems to be an easy one on the surface. This paper will relate the experience of one such operator, Cencom Cable Associates, and will discuss the many things that were learned through that experience. A list of questions will be developed that need to be asked and answers obtained for before pay per view programming is implemented.

## BACKGROUND

Cencom Cable Associates, Inc. is an MSO headquartered in St. Louis County Missouri. CCA was founded in 1982 and by December 1984 had acquired systems in five states with around 40,000 subscribers. The next year however saw CCA grow from 40,000 subscribers to 150,000 subscribers with the acquisition of three systems in St. Louis County. The first system purchased was from Warner Amex. This system utilized the Qube two-way interactive technology. The second system was purchased from Group W and is a one-way addressable system using Zenith Z-Tac converters. The third system was acquired from Storer and is a one-way addressable dual-cable system utilizing Tocom converters. The customer service functions for all these systems were combined to one location. The billing systems and control of all three addressable controllers were installed on one Cable Data Tandem computer.

The Qube system was offering three channels of PPV programming at the time of the acquisition. The other two systems however were not offering pay per view programming. Also, in 1985 CCA reached agreement with the St. Louis

Cardinals baseball team to create the St. Louis Cardinals Cable Network. The Cardinals Cable Network offers 50 home games to cable television subscribers in the St. Louis market on either a season subscription basis or as a single game pay per view purchase. The first game offered was the 1986 home game opener, April 8, 1986. In addition Wrestlemania II was set for April 7, 1986.

The decision was made to offer three channels of pay per view programming on the two one way addressable systems also, and because of the dates mentioned above, it was to begin by the first week in April. Thus begins the experience of implementing pay per view on one-way addressable systems and the resulting list of questions that should be asked and answered before implementing pay per view.

## QUESTIONS TO BE ASKED AND ANSWERED

### How will the orders be taken?

To obtain the correct answer to this question could be the subject of another paper itself. For our purposes here we need to determine the impact that various order taking methods may have upon the technical operations. The first method to be considered is when orders are only taken by CSR's. This has the least impact because fewer orders can be taken and the last minute authorization rush is minimized. PPV channels will be authorized as would any pay service and this order taking method causes no problems in itself. The next method is the use of an Automatic Response Unit. With the use of a touch tone telephone, a subscriber can place a pay per view order without human interface. The affect of this device is that the ARU must interface with either the billing system or the controller directly and many more orders can be placed at the last minute. The effect

of these items will be discussed later. Another telephone order method being trialed is utilizing the Automatic Number Identification capability of the telephone company in your area. Under this method we would need our controller to be capable of receiving and utilizing the data sent by the telephone network to authorize a subscriber for a pay per view event. The last method being trialed is referred to as store and forward. With this method a device is added to the subscribers converter that allows impulse or immediate ordering and reception of a pay per view event. The device descrambles the event and records the transaction. The transaction data is sent to the cable headend via phone lines at a later date. Here again, our controller must be capable of receiving and processing the data. Also the add-on device must be plugged into a telephone jack at the subscriber location. We need to make arrangements to install these jacks if one is not available. In all of these methods it can be seen that we need to know the capability of our controller. Thus the second question....

What is the capability of the controller?

Many of the controllers currently in place with one way addressable systems need to be upgraded to handle pay per view authorizations. Many times this is a software upgrade, but it may also require a hardware upgrade (increase in memory capacity). You need to determine the speed with which the controller can send authorizations, the number of authorization codes it can store and its ability to store different authorization codes for the same channel. You need to determine the method and order of authorization commands the controller uses to authorize the converters. If it is unable to send the data initially, will those commands take precedent over other commands in the global commands that follow. If the controller does not have these capabilities, then the billing system may need to perform some of these functions. Thus the next question....

What is the interface between the controller and the billing system?

In order for pay per view programming to be provided there must be on line access to customer records and control of subscriber converters.

Some of the order taking methods mentioned above work directly with the controller. If the controller is capable of this, the controller would download the billing information to the billing system at a later date. However, in most situations the focal point is the billing system. The ordering data goes to the billing system which then sends the command to authorize a subscribers converter to receive a particular pay per view event. You need to determine the software capacity and capability of sending commands for multiple events on the same channel. The speed of these authorizations is also critical and the slowest link in the authorization chain needs to be determined. It is very important to understand the authorization sequence and the requirements and limits of each step from the taking of the order, the acceptance of that order placement data by the controller, the recording of the order in the billing system and descrambling of that event by the converter. This leads us then to the next question....

What are the capabilities and limits of the converter?

If you are fortunate enough to have in place addressable converters with real time and memory capabilities some potential problems will not exist. The converter must descramble then rescrumble a channel around each authorized pay per view event. If the converter has real time clock and memory capacity, the beginning and ending times of an event can be downloaded to the converter when the order is placed. If this capacity is not available then the billing system and/or controller software must be set to send authorization and deauthorization commands to the converter before the event and at the end of the event.

You need to understand how data is received by the converter. Does the converter need to be on a particular encoded channel or on any encoded channel and will it receive the data when it is off. If the converter is not on a data channel when the initial order is sent, how long will it take the controller to resend the data so it is received by the converter when it is on a data channel. This needs to be understood so that subscribers can be notified to have their converters on a particular channel when an event is authorized or to tune in for a period of time before an event starts.

It is important to find out if there are any problems currently with authorizing pay services. If it takes several "hits" to authorize a channel now, the problem will become a major problem when the "hits" are sent automatically and when they are sent out often. Many converters require particular signal levels before data is accepted. The levels of the encoders and modulators should be carefully checked. Another potential problem results from the fact that many times the channels used for pay per view programming have not been encoded channels before. This means that the converters may not have been checked out for these particular channels and there may be some converters that will not take a "hit" on those channels. You need to be aware of this and if possible put pay per view programming on channels that have been checked out.

#### SUMMARY

If the above questions are asked and answered before implementing pay per view, many potential problems can be avoided. Experience tells me however that problems will occur that have not been anticipated. If you have answered the above questions in detail though, you will have a thorough understanding of how your addressable system operates and what its capabilities and limits are regarding implementation of pay per view programming. The key is to plan ahead and involve as many people as possible in the discussions. One last word of advice, if at all possible, implement pay per view with normal programming and not major events such as Wrestlemania II and the St. Louis Cardinals season opener. Events that generate the largest order volumes are not the ones under which you want to find out what questions you should have asked and answered ahead of time.