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# Deploying Digital Signage

The Case for Coax

# Deploying Digital Signage: The Case for Coax

## Introduction

In digital signage systems today, there's a new and far less expensive alternative to locating media players at displays: place the players in a central on-premise location and distribute their output via easy-to-deploy coaxial cabling.

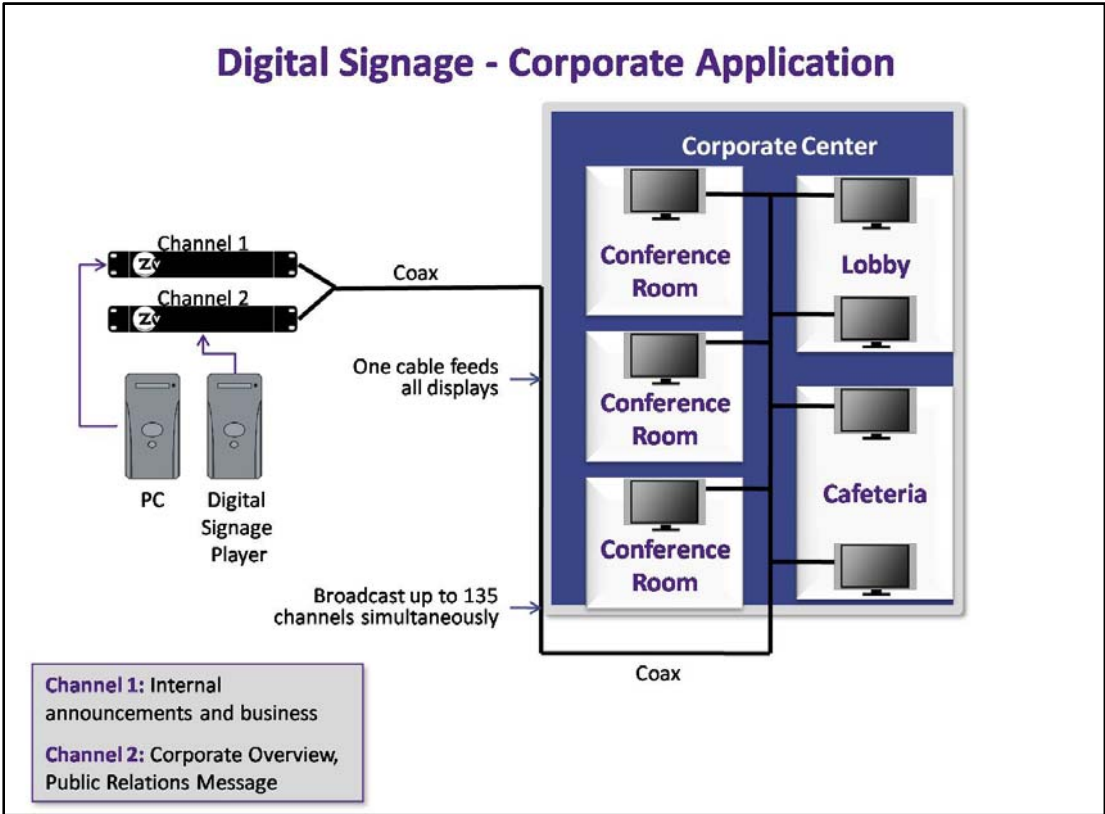
## Media player at the display

There are three main drawbacks to placing media players at the displays:

- 1. Each display requires a player, increasing hardware costs.
- 2. It's expensive to expand the system, since adding displays means adding players and often additional cabling home-runs.
- 3. It presents a maintenance challenge, since the players are typically in "public" areas.

## Centralized media players, with output distributed over coax

Our alternative system, distributing player content over coax, is based on the use of a **ZvBox** HD encoder/RF modulator, which converts the output of the media player into an HDTV channel. That channel is then broadcast over coaxial cabling, and tuned in by HDTV tuners built into the displays. Since each media player/**ZvBox** pair has its own channel, any HDTV can tune in any player's output and display its messaging.



This distributed system using ZvBoxes and coax is less expensive to implement than player-at-display systems, scalable at lower cost, and easier to install and maintain.

**A Typical Application**

Let’s assume a corporation wants to create a 20 screen digital signage system to keep their employees informed of business developments, HR news, training opportunities, etc. Their goal is to deliver high-impact messaging, while keeping costs low and system maintenance simple. Future system expansion is also important.

**Comparison: Costs to implement**

*Player-at-display*

By placing a media player at each display, it’s possible to deliver unique messaging to each display. But in this hypothetical case (as in a great many real-world situations) several displays will *share* messaging, meaning they don’t *require* dedicated players. Regardless, in this type of system a player must be purchased for each display, and the resulting hardware “overkill” adds substantial expense.

Since network-capable players range in cost from \$400+ to over \$1,100 initial costs for 20 players range from \$8,000 to over \$22,000.

*Distribution via Coax*

In contrast, by using the coaxial cabling distribution system, it’s possible to distribute the output of one player to as many displays as needed. Since the output of each player is available on a unique HDTV channel, all displays tuned to that channel will automatically display the messaging from that player.

Assume that the corporation actually only needs 3 players, since several displays will share messaging- that means cost to implement vs. a player-at-display system would be:

Players distributed over coax		Players located at displays	
3 players @ \$800 each	\$2,400	20 players @ \$800 each	\$16,000
3 HD modulators @ \$2500 each	\$7,500		
Wiring and connection costs	\$1,100	Wiring and connection costs	\$3,000
<b>Total cost</b>	<b>\$11,000</b>	<b>Total cost</b>	<b>\$19,000</b>

Initial savings are \$8,000 or **over 40%** using the distributed system. If a less expensive modulator is used, savings are markedly greater. See the following illustration for comparison details:



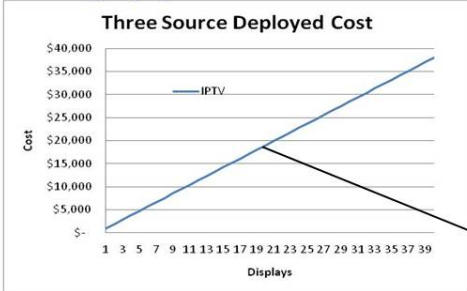
# Digital Signage, Player at Display

## PROJECT

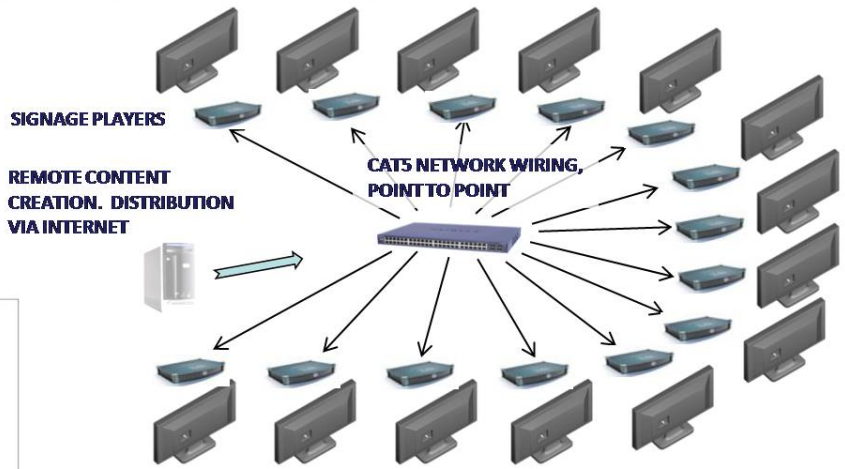
- Deploy 20 displays on a corporate campus, airport, university, sports stadium
- Three different info channels

## PROJECT COST – \$19,000 IPTV

Excluding displays



Cost is ~\$1000 per display. Can have various sources at almost no increment



## DISADVANTAGES

- Very high per-display cost
- Requires a box at each display
- Requires Cat5 to each display

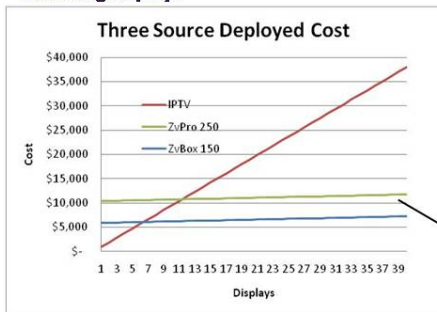
# Digital Signage Over Coax, Savings

## PROJECT

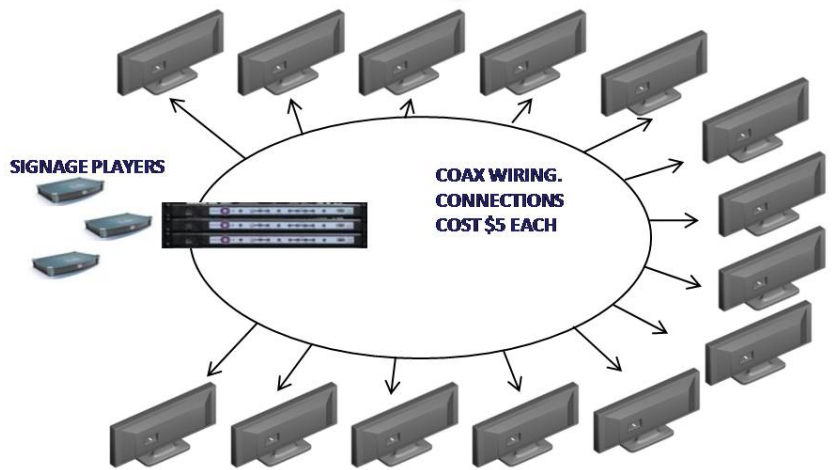
- Same

**PROJECT COST** – \$19,000 IPTV  
 \$11,000 ZVPro 250  
 \$ 6,500 ZvBox 150

Excluding displays



Cost is per source. Adding displays is almost free



## ADVANTAGES

- Very easy to install
- Very easy to add another source
- Trivial to add another display

## Comparison: Expansion costs

Should the corporation decide to add displays in the future, the cost difference may widen.

### *Player-at-display*

In the player-at-display system, adding 6 displays means adding 6 players. In addition, new home runs of cabling may need to be installed from the content server to each new display, and those runs may be expensive, and their installation disruptive to the areas they pass through.

### *Distribution via Coax*

Conversely, in the distributed system using coax, the 6 new displays may well receive their messaging from existing players, meaning *no additional expense* for media players. And in the coax system cabling can be run to the new displays by splicing the coax nearest the new displays (using standard RF splitters and common tools), and the additional lengths of coax added as needed. It's both less expensive and less disruptive than additional home-runs.

System Expansion	Old Way	ZeeVee Way
Add a display	<ul style="list-style-type: none"><li>• Pull new cable home-run</li><li>• Buy &amp; install new player</li></ul>	<ul style="list-style-type: none"><li>• Split coax w/\$5 splitter, connect to new display.</li></ul>
Player, cost per display	<b>\$400-\$1100</b>	<b>\$0</b>

## Comparison: Maintenance costs

### *Player-at-display*

As mentioned, in the player-at-display system, service work on the players must be done wherever the displays are located. In a high-traffic location (i.e. a retail store, or a busy lobby) it may be necessary to schedule off-hours repairs, which can drive up labor costs between 1.5 and 2 times normal rates. The display associated with that player will also be dark until repairs are made, adding further soft costs to the problem.

### *Distribution via Coax*

By contrast, the players in the coaxial cabling distribution system can be located in a back room, where work can be performed during normal business hours under favorable conditions. In addition, the display associated with the failed player can be switched to another channel, allowing it to display other messaging while its player is repaired, greatly reducing the soft-cost of down-time.

## Conclusion

The advantages of using a distributed system based on ZvBox HD encoder/modulators and coaxial cabling are as follows:

- The HDTV channel generated by a **ZvBox** HD encoder/RF modulator, and carrying the output of a media player, may be tuned in using the standard HDTV tuner built into a display. There is no player, set top box or adapter required at the display, saving considerable expense at *each* display.
- Displays that are added to the system and connected to the coax in the future automatically receive the output of the existing players/modulators; system expansion is easy and cost-effective.
- Coaxial cabling is simple to deploy; it can be split and terminated in-field with standard tools and connectors, allowing extension of the distribution system with minimal expense and disruption.
- Media players can be located in a back room environment, simplifying and reducing the cost of maintenance.

Distributing digital signage using ZvBoxes and coaxial cabling is the smart choice now, and in the future.



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