

# **Collaborative PowerPoint Origination for Corporate SignStream HDTV Digital Signage**

A Contemporary Research White Paper

## **Reinforcing Corporate Communication**

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Today's corporations provide a wide range of resources and opportunities to their employees, including free flu shots, blood drives, child care, Web and on-site training, and sports programs. The problem is that employees don't always take advantage of what's available - despite e-mail, web pages, and bulletin boards and flyers. The clear need is a better way to get their attention, a sharper tool to reinforce the other messages.

Digital signage is a logical solution. Displays placed at common gathering points can draw attention to events and options they recognize, but have been laid aside by all the other priorities that arise in a day's work. Signage is much more effective than printed signs - moving images catch the eye, and the technology replaces a host of staffers who must constantly refresh printed announcements.

However, digital signage represents a significant front-end expense. Every location needs a display with a miniature computer mounted behind. New Ethernet cables must be run to all destinations. The back-end cost is even greater - new content must be generated every day so. If the messages are stale, outdated, and unchanging - they will be ignored.

On balance, system replaces lost time due to print distribution, and employees make better use of HR resources. The Home Depot's digital employee communication system at its Atlanta headquarters bears that out. Over the past year, people are making meetings, and events are not as lost in the shuffle as before. In the past, a few hundred would appear for annual free flu shots. This year, over 3,000 received shots. That's a huge success by any measurement, and a big savings to Home Depot in gained man-hours.

## **Retasking the RF Coax System for SignStream Digital Signage**

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Contemporary Research's SignStream offers an innovative way of reducing front-end cost of redundant signage servers and Ethernet cabling. Instead of distributing signage over the network, a single media player broadcasts the signage over existing RF cable as a digital HDTV channel. Displays with onboard HDTV receivers show the message in crisp, clear 1080i graphics. Control commands are sent though the same RF cable, communicating with small controllers at each display.

Technology is now available that can insert off-air digital broadcast channels into the in-house cable system. SignStream software can then switch to HDTV local news programming to alternate with signage channels or update employees in threatening weather conditions.

TV isn't just TV anymore. Our country's advance to digital broadcasting is also opening the door for retasking a facility's existing analog RF coax system for HDTV channels and signage.

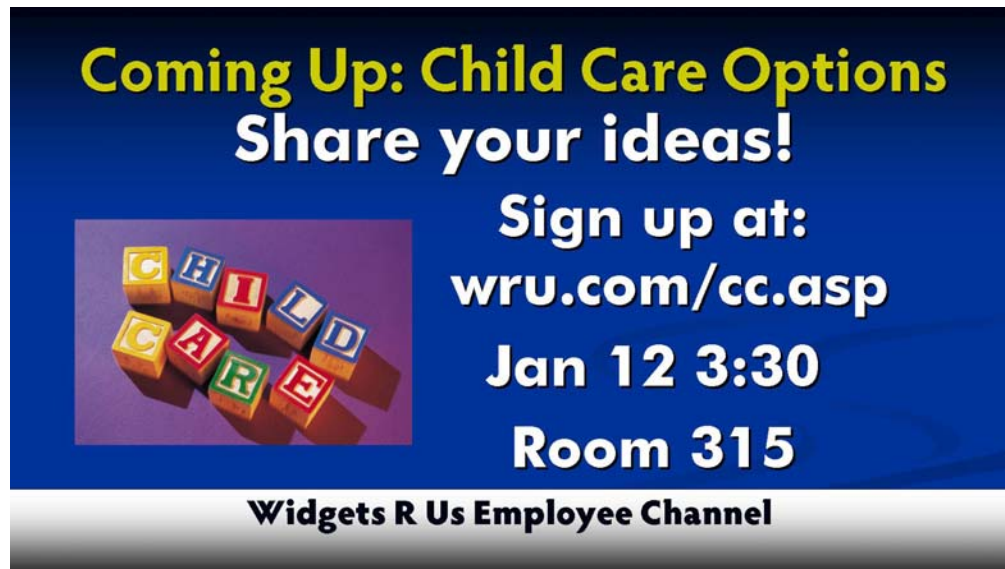
## Creating Content – PowerPoint Collaboration

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Digital signage ads and trade shows tout high-interest images created by the efforts of talented graphics arts departments. Of course, signage aimed at consumers, multiplied by thousands of retail displays is well worth the investment.

For corporate communication, the values are different. The emphasis is on clear, clean design, with primarily textual information. No corporation will dedicate a team of artists to create and maintain the content.

The solution is a collaborative approach to generating content. All departments have staffers that know how to use PowerPoint, and those same departments have a message they need to send to employees.



**Coming Up: Child Care Options**  
**Share your ideas!**

**Sign up at:**  
**wru.com/cc.asp**

**Jan 12 3:30**  
**Room 315**

**Widgets R Us Employee Channel**

The first step is to create a standard template for HDTV signage. Set the page dimensions to 17.8 inches wide by 10 inches high, about 1280 x 720 pixels. This can be done by communication department staff, or with a background, fonts, and color scheme created by corporate marketing or an outside graphic art firm. You can factor in a safe area within your design (even LCD displays cut off a little), or use the Power Point converter (next page) to add a border.

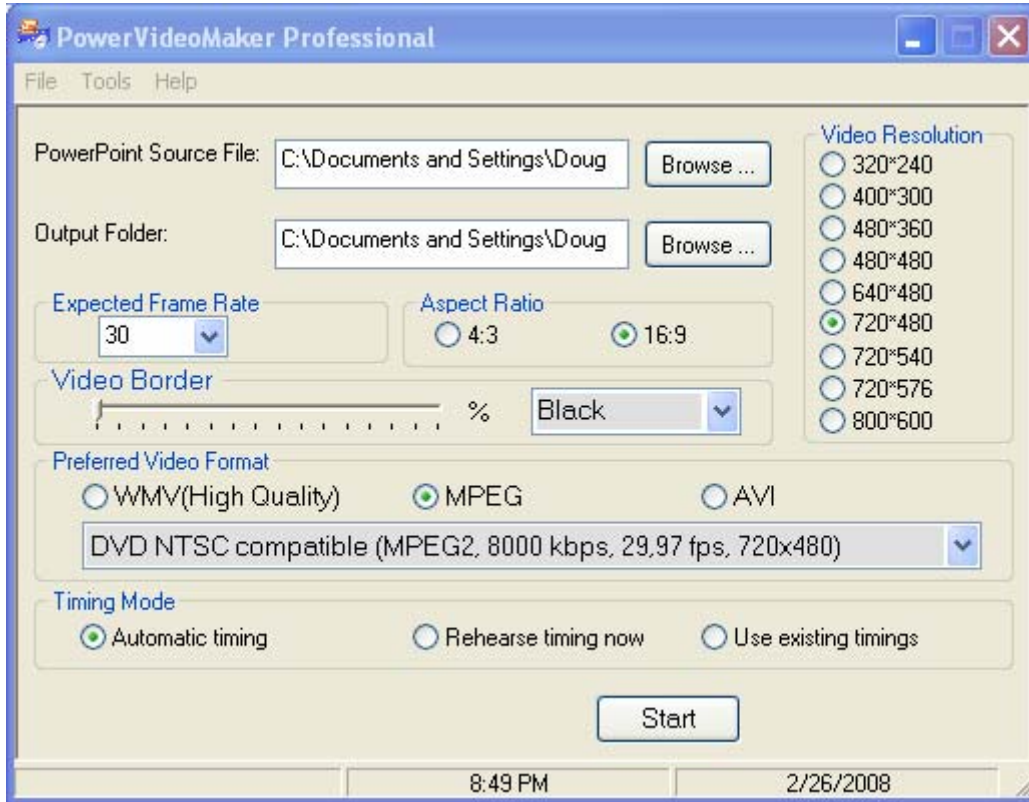
Encourage everyone to stay within the guidelines, keeping close to standard font sizes. Information should be short and to the point – especially for digital signage, where the goal is to catch someone’s attention at a glance.

### ***Collating Content***

One two people should receive new slides via e-mail and copy the new slides to the master PowerPoint show, tweaking layout and fonts as needed. Use the Notes area below the slide to add comments and when the slide should be removed.

## Converting to Digital Video – PowerVideoMaker Pro

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PowerVideoMaker Pro from PresenterSoft converts 2000, 2003, and 2007 PowerPoint presentations into MPEG videos. You can use automatic timing, or use timing programmed into the show. All animation is also converted.

To convert the presentation, use the settings above, resulting in a widescreen 720 x 480 digital MPEG file. If images are cut off slightly in the displays, add a black video border of about 10%. This will add a border with the presentation displayed inside.

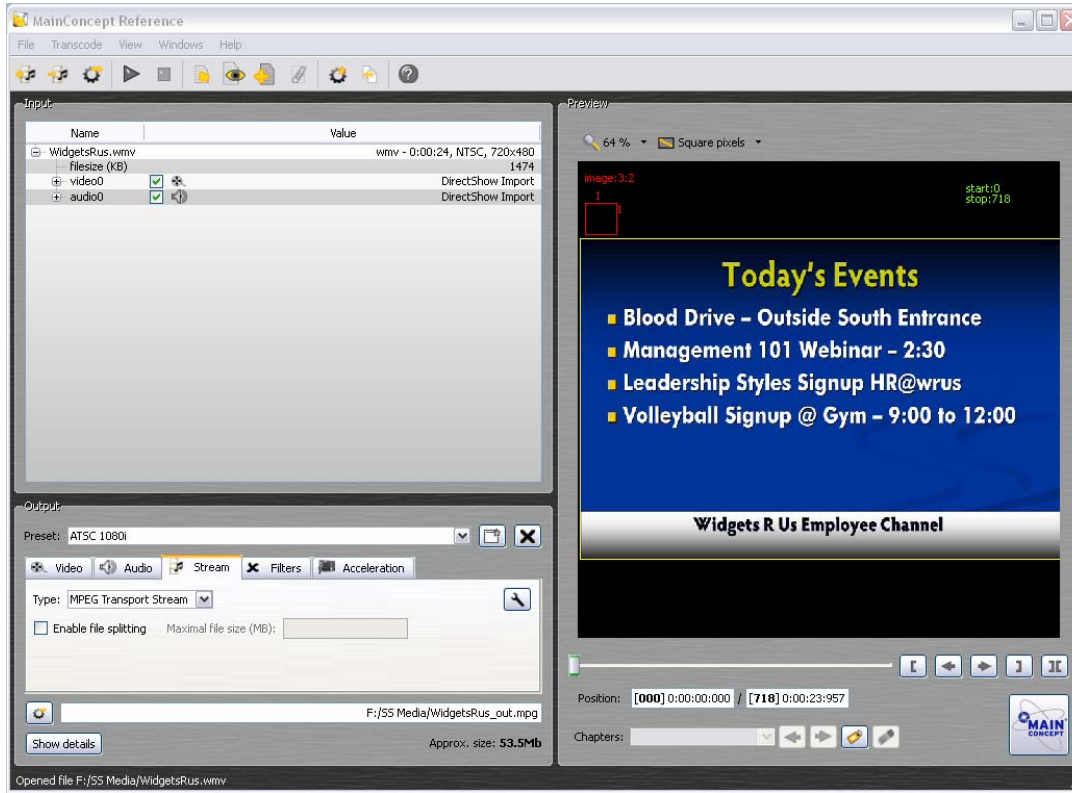
Simply select the PowerPoint presentation, then the output file – the application does all the rest.

### ***More than Information***

The same process can create programs for emergency applications, such as instructions for emergency evacuation, and other alerts. The SignStream software has Web buttons you can click to run the video immediately on all screens.

## Formatting to ATSC Video

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The final step converts the WMV format movie from MovieMaker into an ATSC 1080i Transport Stream. As with Movie Maker, the MainConcept Reference software runs by presets, so once the first transfer is made, the process is simple and straightforward.

In brief, MainConcept Reference upscales and reformats (transcodes) the digital video into a file used by SignStream for broadcasting as an HDTV channel.

The user then copies the file to the SignStream network folder for use in the next day's broadcast.

That's it.

## Creating Content – PowerPoint Collaboration

The screenshot shows the SIGNSTREAM Control | Edit interface. The main area is titled "Schedule" and contains a table with the following data:

	Event	Time	Start	End	Days	Device	Power	HDTV	NTSC	Vol
Select	Morning Startup	7:35 AM	11/20/2007	12/1/2007	MTWRFS	All Zones	On	14-1	6	0
Select	Mid-Morning	10:30 AM			MTWRFS	1 Enterta	On	15-1	6	0
Select	Evening	4:00 PM			MTWRFS	1 Enterta	On	14-1	6	0
Select	Shut Down	4:05 PM			MTWRFSN	All Zones	Off			

Below the table, there are control elements: "Event Name" (Morning Startup), "Events" (Evening), and a date/time display (11/20/2007 2:49 PM). Buttons for "Edit", "Remove", and "Add" are also present.

SignStream is a Web-based application that runs a daily schedule for media playback and display control. While the software runs in the media player, the administrator can access the Web pages from anywhere on the network to manage the schedule.

Note that you don't have to run the signage channel all day long. Remember that the HDTV signage program is a TV channel like any other. At different times of the day, you can switch the displays to a news, weather, or business channel. There is off-the-shelf equipment that can insert local off-air HDTV channels into your RF system. Many news channels provide a second digital Weather channel that can be tuned in by the HDTV displays – perfect for rotation between signage broadcasts.

The screenshot shows the SIGNSTREAM Signal | Setup interface. It features a grid of buttons for various alerts and settings:

- Caution - Arts
- Caution - Dorms
- Caution - Science Buildings
- Caution - Sports (highlighted with a red border)
- Danger - All
- Fire Alert - All
- Leave All Buildings
- Stop Alert
- Weather Channel - All
- Weather Warning - All

In addition, the Alerts page can trigger pre-recorded alert videos, or tune displays to a news or weather channel.

## System Components and Budgets

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There are only a few components to a SignStream HDTV Digital Signage system.

### Content Origination

PowerVideoMaker Professional	\$ 150
<i>Available from <a href="http://www.presentersoft.com">www.presentersoft.com</a></i>	
MainConcept Reference/MPEG-2	\$ 450
<i>Available from <a href="http://www.mainconcept.com">www.mainconcept.com</a></i>	

**Head End Origination** – MSRP, does not include installation, other RF components for distribution that may be existing

SignStream SSV-300 Media Player	\$4,500
<i>Holds up to 3 ATSC Modulator cards</i>	
SignStream SSM-ATSC Modulator Card	\$2,995
ICC-HE Control Head End, sends control commands via RF	\$1,650
Drake DQT1000 ATSC to QAM Transcoder	\$3,729
<i>Tunes one SignStream and one off-air HDTV channel, combines into one cable-format QAM channel – typically to most corporate systems</i>	
Total:	\$12,974

**Display Control Components** - MSRP, does not include installation or control cable

ICC1-232 RS-232 Display Controller	\$ 350
ICC1-IR IR Display Controller	\$ 350

### Displays

Many makes and models can be integrated. Many sites use LG or Westinghouse ProAV sets (almost all feature onboard RS-232 control). In addition, specific Sharp models feature RS-232 control, and Philip Smart Displays employ plug-in control cards.

Other sets offer IR control, select models that provide discrete power on and off control.

For those interested, Contemporary Research can prepare estimates for solutions at your site.

Contact [sales@crwww.com](mailto:sales@crwww.com) or call 888-972-2728