

Case Study: Flash Earns Pole Position for Safety-Kleen's Video Training

The parts washer manufacturer and NASCAR sponsor left videotape behind as soon as Flash offered video support. Now, the company saves both time and money by delivering all of its sales and customer training online.

Perhaps you've been stuck in traffic behind one of their bright yellow service trucks with black and red S-shaped logo. Or perhaps you've noticed the same colors and logo on Tony Raines' #96 NASCAR vehicle, or on equipment at your local auto service center the last time you had your car in for repair. They are Safety-Kleen, a provider of parts washers and industrial waste and oil recycling and re-refining services. They've got 400,000 customers all over North America, 160 sales and service locations, and 4,500 employees—all of whom need continual training.

And how do all those people get their training? Well, through streaming video, of course.

"As soon as I heard that (Macromedia Flash by Adobe) was coming out with video support in 2002, I went all on it," says Frank Hanfland, manager of training technology and interactive media for Safety-Kleen. "We jumped on the bandwagon immediately. We realized that this was our answer to our problems." He says he was particularly drawn in by the "exceptional quality of the video stream." And with Flash 8's new VP6 codec, he says, "you can generate DVD quality without problems. And it is very cost-effective. It is the ideal solution for us."

Safety-Kleen needed a training delivery solution because they were stuck in the old videotape distribution rut. "We had old VHS tapes being played and played and played, and we had significant issues with signal degradation and quality degradation. I mean, some of those videos are so snowy you think your TV is tuned to a no-channel," says Hanfland.

"Once we had a video produced, it took forever (by that I mean, a week) to get those videotapes duplicated and shipped to the location. We produce videos usually in three to four days (from initial filming to release) and the duplication process alone tacks a week onto that. So that was a significant delay in our project cycle."

Then too there was the added cost of tape distribution. "Every single videotape cost around \$2 to duplicate and then another \$5 to ship," says Hanfland. "Multiply that times 160 locations, and that's around \$1,000 every single time." Since Safety-Kleen has turned to streaming video, they've been saving at least \$1,000 on distribution costs each time they release a new video.

"Now we can bring video training out to our folks much sooner, which means that if we have a new product that we're showcasing, the sales and service people can learn about the product a week earlier. And they can start selling and servicing the product a week earlier," says Hanfland. "So we make money a whole week earlier on that, and that's a significant factor."

Today. Hanfland and his crew of two simply deposit their finished videos onto the Safety-Kleen "elearning server," where the videos are available to any of the company's 4,500 employees on demand at their convenience.

Hanfland says that thanks to Flash, the company's training videos require almost nothing from the end user. "When you download, it downloads a self-extracting .zip file so you don't need to do anything, and it puts it into 'My Documents,' creates a folder called "sk_video," puts the stream and the player in it, and you can take it wherever you want to go," he says.

"It buffers fast, and the quality is great. That's why we use Flash Video over Windows Media. If I used Windows Media, I'd have problems. I'd have to compress it at a much higher bit rate to get the same speed and performance, and then the quality would degrade," says Hanfland. "And the other issue with Windows Media is that they change their codec every three and a half

minutes," he says jokingly.

"Windows Media is really very good, but the problem there is the codec updates. It has to download, it has to install. And we have firewalls here. Things are secured and locked down, so even if employees could get to the codec on demand, it wouldn't install." And this codec update process is "ungraceful," according to Hanfland. "It doesn't even give you an error message; it just doesn't do it," he complains. "That's not acceptable. I have to have a way that I can reliably, all the time, deliver high-quality video in the shortest amount of time, and Flash video is the tool to do that."

Hanfland doesn't like Apple QuickTime very much either. "It is not acceptable for a corporate office, because they try to sign you up for the iPod music player and other things," says Hanfland. "I don't want to listen to music stations, and I certainly don't want my people listening to music stations. I want to support and enhance their performance."

You get the same sort of problems with RealNetworks, according to Hanfland. "Real Media just bombards you with advertisements," he says. "With Flash we have reliable playback 100 percent of the time. We don't have to worry about getting a different player or a different codec or getting bombarded by advertisements."

Hanfland says Safety-Kleen is currently using Flash Communication Server 1.5 but will soon upgrade to Media Server 2. To make sure all of its employees can use Flash, the company has purchased "7,500 concurrent licenses," he says.

More Than Just a Pretty Face

Hanfland says that the major advantage of using the Flash server is that it allows him to do not just progressive download but also true live streaming and to also automatically adjust the stream to the user. "When a progressive stream downloads, it downloads onto your computer and consumes hard disk space, and it may not be adaptable to your computer's connection speed." But at Safety-

Kleen, thanks to Flash video, says Hanfland: "We're figuring out at what connection speed you are actually connected, and then we select the right stream quality for you and send that over to you live. So it's like Webcast streams; it doesn't take up space, doesn't take download time at the beginning. It starts playing immediately. So we are live all at the same time; everybody sees the same thing at the same time."

There are, of course, other products that can do this, says Hanfland, "But I have yet to see the same image quality as well as the same buffering capabilities. And if I use the component of Flash Media Server and use Flash 8 as the front-end development tool, they are seamlessly integrated. So I can create visually appealing interfaces and applications and do that without having to learn another coding language."

Along with using streaming for on-demand training, Hanfland and his staff occasionally use the Flash server for simple Webcasting. Most Safety-Kleen Webcasts are live presentations, such as CEO messages. They also use Webcasting for conferencing. "When we're doing something like a live synchronous conference and everybody has to be on it at the same time, then I use Communication Server," he says.

Safety-Kleen doesn't use Macromedia's popular Breeze platform due to "budget issues" with that product, and has instead developed its own tool in-house for creating virtual classroom-style experiences.

Safety-Kleen's elearning server currently holds 292 Flash-based training videos, which take up 13GB of storage space. In addition, the server holds 290 other training courses, only about 10 percent of which contain embedded video clips. These courses take up 1.16 GB. That's surprisingly little storage space. And it's due to the fact that "Flash compresses like crazy," says Hanfland. At Safety-Kleen headquarters in Plano, Texas, Hanfland and his staff also have access to an entire video production studio. The equipment there includes three Sony MiniDV camcorders and a Sony HDR-

FX1 HDV camera. Their additional software tools include Adobe Premiere and After Effects for editing and postproduction. And, finally, they use Flash Professional 8 to encode their footage.

Although Hanfland's training group occasionally shoots high-definition footage, he says hi-def footage has its limitations in his company. "We don't need visual detail, there's not much fine tuning in our business," he says. At Safety-Kleen speed is more important than resolution. "We have reasonably low connection speeds to our branches. So if someone just wants to watch a video, my primary goal is to get the video to them as soon as I can without them having to wait an hour or a half-hour for a buffer to fill up, and then have them interrupted again to re-buffer and so on."

Currently, streams are made available to users in three quality levels: low (90Kbps at 240x180 resolution), high (140Kbps at 320x240), and very high (1000Kbps at 720x480). Hanfland says that the very high quality files are usually used for sales presentations, with reps downloading the file onto their laptops before making the rounds to customers. Likewise, downloading to a laptop is good for large group or classroom presentations. "If you're in a classroom, you don't want the students to have to wait while the video buffers," says Hanfland. "So we usually download it the night before and have it ready to play." Hanfland sees Safety-Kleen emphasizing streaming over progressive download in the future, especially with Flash Media Server 2, which he says is "more advanced in detecting connection speeds, so I can actually serve streams out all the time, which is much better. The other advantage of a stream is that if it doesn't download, it isn't cached; so if I make an update to the video and send it out, the user won't play the cached version. They will play back the newest version." Hanfland says that right now Safety-Kleen's output is about 90 percent download versus 10 percent live streaming, but the percentage of streaming is increasing every day.

What else might the future hold for Safety-Kleen? What is on Hanfland's wish list? "Well, live encoding of an uncompressed video stream that is dynamically adapted to the user's connection

speed would be my dream," says Hanfland, "because right now I still have to create three different video streams, three different Flash files, and then serve the right one up. But if I could just put up an MPEG or an uncompressed AVI, then I could just have this thing encoded on demand. That would be my dream. That would be just wonderful."

By Mark Fritz
April 4, 2006

<http://www.streamingmedia.com/article.asp?id=9270&page=1&c=1>
9