

Golf: Mapped out and Wireless

CBS covers the course with high tech best

by Robin Berger

AUGUSTA, GA

Golf is big business for CBS Sports, and there's no bigger event than the Master's Tournament in Augusta, Georgia, April 8-12. The network will showcase the action on Saturday, and provide Thursday and Friday highlights. ESPN will provide live coverage Wednesday through Friday, as well as replays and highlights.

CBS will up the ante on last year's pyrotechnics by providing more live video feeds (adding another mobile unit to accommodate them) and expanding the scope of the high-end animation solution it used last year for a better look at the action at the cups.

Last year, CBS delivered the new animation from holes 10-17; this year 8th, 9th and 18th were added.

The production was a joint effort by the Augusta National Golf Club, CBS, and Archiform 3D, a Miami-based global provider of 3D virtual reality presentations usually rendered for real estate and golf resorts.

"Augusta had already mapped the course," said CBS Sports Director Steve Milton. "Archiform 3D took those mappings and overlaid the video on top of it."

Specifically, Archiform 3D's president went up in a helicopter provided by CBS and shot HD stills of the entire course, which became the basis for gridded computer files of the layout. Milton said the process took about 18 months to finish.



The ProTracer system generates real-time trajectory of a ball shot by golfer Steve Flesch at the 13th hole of the Northern Trust Open.

"The rendering process involves hundreds of computer clusters—you don't really render from the first frame

to the end frame," he said. Milton explained that Archiform's software parameters select the best aspects of each hole, then "marries" them together.

The final animation product is matched with golf footage previously recorded by an EVS system.

As for the increased number of live video feeds, the broadcaster intended to cover every shot on "Amen Corner" (11th, 12th and 13th holes) and almost every shot at the 15th and 16th holes, according to

Ken Aagaard, executive vice president, engineering, operations and produc-

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PBS Doing More With Even Less

CTO McCoskey talks tech in advance of annual Vegas TechCon meeting

by Steve Krant

LAS VEGAS

When times are tough in the commercial broadcast business, they must really be rocky in public broadcasting. PBS, with more than 350 member stations, is certainly vulnerable to government belt-tightening, as well as cutbacks among their corporate, foundation and pledge-drive tolerant supporters. Nevertheless, while hardly unscathed by the economic downturn, the network is moving ahead with advanced technology initiatives to streamline operations and do more with even less for its member stations and viewing audience.

One of PBS' primary goals is to offer technical support to its constituent stations and be a conduit for best practices. CTO John McCoskey acknowledges the network's focus on "increasing automation and refining content workflows... the traditional approach to multiplatform services has been separate vertical infrastructures for each distribution type; we've focused [instead] on building a common backend that supports broadcast, online, education, retail and syndication delivery... [allowing us to] limit the new infrastructure and operational load of adding new outlets."

PBS's goal, McCoskey continued, "is to have normal workflows [that] require little human interaction, freeing-up staff to focus on things that need expertise and decision-making."

In fact, the 24/7 NOC staff in Springfield, Va. is already remotely managing station operations for some members, "so they can run unattended for several hours a day to reduce operational costs," he said.

NEXT GENERATION TECH

The costs of delaying the DTV transition by four months are a fiscal speed bump for member stations, initially estimated at some \$22 million to cover another four months' utilities, tower leases and aging equipment upkeep. However, "about a third shut off their analog services on February

17 and more will transition before the June 12 deadline," McCoskey said, thus reducing its impact.

PBS is also working with "our key producing partners on digital delivery of content... most content still arrives on videotape, which requires us to ingest at real-time speeds... file-based delivery would increase efficiency and flexibility for both PBS and producers," McCoskey said. "Early tests of this workflow are encouraging." NGIS—an oft heard acronym within the PBS community—is essential to achieving that goal. The "Next Generation Interconnection System" is a phased 10-year project which began in 2005.



John McCoskey

NGIS was funded a few years back by a special congressional appropriation so the recent economic downturn has had no material impact on progress, according to McCoskey.

"In fact, our purchasing power is stronger due to aggressive pricing by our vendors and continuing advances in server and storage technologies," he said. The first goal, to replace an expiring and expensive satellite contract, was recently reached with the move to a new satellite, and transition from standard to high definition on the network's primary services. "The next major phase is the change from traditional linear satellite feeds to file-based delivery to member stations."

Following a very strict and formal RFP, evaluation and testing process, PBS announced in February that it had tapped International Datacasting Corp. to provide key parts of that infrastructure. File-based HDTV content will be distributed via the company's SuperFlex broadband DVB/S2-IP satellite system and Datacast XD file management and distribution software.

"We are testing with a small group of stations that are representative of the diverse universe of configurations and workflows," McCoskey said, "with the intention to roll it out to all stations in 2010."

TECHCON TUTORIALS

As the broadcast industry's annual Las Vegas trek looms, many in the PBS world plan to arrive early and stay late. NAB is just the bonus event that

happens right after TechCon, public television's annual conference held the week prior. NGIS and new technology workflows will be the focus of attention, and while the economy will most certainly cut into attendance, TechCon remains the one event that station staff count on to keep up-to-date and connected with their colleagues.

"One of our goals [this year] is to increase the value of the conference by bringing more tutorials, which offer practical experience that attendees can bring back to their stations," said McCoskey. A sure-fire highlight will be the NGIS demonstrations running throughout the conference, "offering attendees a chance to see the equipment and speak to the 'alpha stations' who have been involved in the new system's development."

Other valuable session topics range from how to write a winning grant application to implementing BXF and file-based workflows, and from multiplatform content delivery to making the "un- or lightly attended" master control room succeed. User groups for traffic managers and practical solutions for FCC Compliance and Public File requirements are also expected to be popular.

TechCon "is a chance for stations to talk to others who have already made the digital conversion and get advice on how to handle the switch, what worked and what didn't... we will wrap-up, as always, with a PBS Staff Q&A which has always proved to be valuable," McCoskey said. ■