

## VDI Delivers Convergent Networking

### Children's TV Integrates Broadcasting And Online Content

**Gregg William Riedel**

**S**tart with giggling children. Add some educational programming, a game show or two, fun, games, the Internet, and 20 million households of viewers participating through their computers at home. Combine that with some creative graphics, a chat session, and the technology to link it all together and you have the Noggin network.

When Nickelodeon and Sesame Workshop teamed to create Noggin, a 24-hour commercial-free children's television channel and complementary online site, an essential goal was to keep the content fresh and involving. A convergent network, Noggin turned to Video Design Interactive (VDI) for the technology used to integrate television programming and online content in a way that has not traditionally been used before to demonstrate the network's philosophy—"Made By Kids and Kid-Driven Learning." VDI delivered an extensible software and hardware solution to fulfill this dream by automatically airing viewer-created web content, polls, and chats around the clock.

#### **Come Together**

Noggin wanted kid-made content pulled live from the web and sent to air in real-time. Where most networks display just their TV schedules on air, Noggin's goal was to make TV and the online community come together by featuring kid-made web creations *live* during its TV promotional breaks. VDI did just that by creating the technology to bring **Noggin.com** to life on the television screen through extensive on-air packaging and technology infrastructures.

Developed in a collaborative effort with Noggin's internal IT staff, the entire Noggin network is designed around two facets: the web applications designed by Noggin and the segments designed by VDI.

The interactive applications on the Noggin



*Some of the Noggin team on break at the studio.*

# Technology/Streaming



(Left) Dress Phred.

(Below) Pollscreen (top) and Hubbub Chat (bottom).



ments generate poll tease and poll result interstitials that display live poll results from Noggin.com's "Skengle" and "Skengle" polls. The poll results are displayed numerically (for example, "25-percent") and graphically. The poll result bars are created from scaled "Skengle" characters.

To enhance Noggin's "Spunk" comedy game show, VDI created three additional segments: "Featured Creation," "Top Scores," and "Spunk Chat." The "Featured Creation" segment generates an interstitial that displays the Spunk featured creation and an amusing viewer-submitted image, along with the name, age, and state of the submitter and the title of his/her submission.

The "Spunk High Scores" and "Team Scores" interstitials display up-to-the-minute score data for the top ten individual Spunk scorers and team scores across the country in both text and graphical, state-by-state map formats.

The "Spunk Chat" portion generates interstitials featuring live chats from Noggin.com, along with the featured creation image that the children are discussing.

## Infrastructure

VDI constructed an infrastructure that would support the interactive network's current and long-term programming goals. VDI designed a web-to-TV infrastructure that includes Chyron's flagship Duet graphics system, and a Windows NT-based control system running custom software that monitors Noggin's Louth Automation system, into which plug-ins can be added as requirements change. Based on playlist events inserted into the automation playlist by Noggin programming staff, the control system triggers the display of

graphic pages on the Chyron Duet, which are automatically generated from web data, graphics, animations, and sounds. The entire system runs without operator intervention at Viacom's network operations center.

VDI served as the master installer and integrator at the Viacom network operations center, overseeing and implementing network routing and connectivity (for Internet connectivity between the systems installed at the network operations center and Noggin's Manhattan offices), video routing, set-up and configuration of the Duet and control system, and general facility integration. VDI was also responsible for overseeing enhancements to Viacom's internal scheduling system, and worked closely with Viacom and Louth to drive changes to the automation systems.

The segment software modules developed by VDI require generation of live content for stand-alone interstitials, programs, or programming blocks. Each software module generates an interstitial segment by mating one of several pre-produced video "backplates," programmed into the playlist, with Duet graphics created dynamically from images, sounds, and data (such as poll questions and results, live chat text, or user data such as birthdays) from the Noggin website. VDI fashioned the system so that all data is downloaded moments before airtime, ensuring the most recent data is displayed.

## Programming And Scheduling Interactivity In Louth

The next hurdle was integrating the system with existing programming/scheduling systems. Typically, the VDI system is driven through several

events inserted into the Louth playlist (including the digital video "backplate" ID and a keyer instruction). When the control software detects one of these special VDI blocks in the playlist, it determines which segment module to run. The segment downloads the appropriate data and prepares graphics on the Duet; this occurs far enough in advance of airtime to ensure that all data/graphics/sounds are ready for playout before the keyer is instructed to key in the graphics over the video backplate.

Viacom also added functionality to its own custom scheduling tool, enabling its programming staff to automatically insert these event blocks from a simple menu command.

Twenty-four hours a day, seven days a week, children can log on to Noggin.com to create and share artwork, animations, and sounds, as well as participate in chats and polls about Noggin programming. VDI has delivered a fully automated, turnkey hardware and software solution that enables Noggin's viewers to see what their peers are chatting about, thinking about, and creating online. The complete system developed by VDI provides Noggin with truly convergent programming. ■

Gregg William Riedel is technical director for Video Design Interactive.