

## **This is IT: Papa John's Cardinal Stadium**

When people think about college football, the Information Technology department at the University of Louisville likely is not the first thing that comes to mind. Even at the new Papa John's Cardinal Stadium, the game, the crowds and the proximity of one's seat to the nearest concession stand take precedence over the details of how the video picture winds up on the scoreboard or where the *Sports Illustrated* reporter can plug in her laptop. And yet, IT's fingerprints are all over the newest showcase of the Louisville football program.

Bob Gueltzow of IT's Communications Services oversaw the nuts-and-bolts communications wiring in the new 42,000-seat stadium. He signed on nearly four years ago as a coordinator of special projects. At that time, his job was to outline the stadium's anticipated requirements and limitations with the architects, from the creation of workable drawings to bid collection. Although Mr. Gueltzow is no longer officially involved in that area today, his commitment remains.

"It's fairly simple how it all goes together," he says, pointing out a wall of coaxial cable in a closet-sized room that houses the main station—a constellation of feeder cables that extends to 15 intermediate relaying stations over five levels of the stadium and related facilities.

From the field level to the concourse, club rooms, private boxes and finally the press area's rooftop perch, connections to the scoreboard, video screens, closed-circuit cable television and Ethernet hookups to campus originate from this room. Mr. Gueltzow is particularly proud of the fact that in the entire stadium, only a triad of conduits is visible as evidence of the miles of coaxial cable and electrical wire within. Still, in reality, nothing is ever simple; it just looks easy.

Because of heavy rains, initial construction of the stadium structure was delayed. Consequently, the crunch was on to complete the rest of the facility from the inside out. "It was crazy!" remembers Mr. Gueltzow. "It was the most pressing job for time. No time! It had to be done by the Kentucky game—no ifs, ands or buts." Painting, carpeting and electrical wiring continued up until the day of the inaugural game, with workers putting in 12-hour days, seven days a week for 10 weeks. Even now, some work remains. Television monitors—over 250 in all—continue to be delivered and installed.

Mr. Gueltzow's interfacing with vendors, directing installation, designing and related paperwork was a full-time job—especially toward the end. He estimates that he lost 12 pounds working in the summer heat up until game day. After running up and down steps overseeing installation and troubleshooting—neither elevators nor air conditioning was yet operational—the first game's heat and humidity were already old hat for him.

And the new stadium is striking. At one end, a bronze statue of Louisville's favorite quarterback, Johnny Unitas, stands at the ready in front of his new museum, golden arm cocked back to throw. Sprinklers constantly water the SportGrass turf. The lines are clean, streamlined.

Even though the landscaping, museum and parking weren't ready to go on opening day, the fans in the stadium could see the action. So could the folks watching at home.

There is more to the stadium and facilities compound than meets the eye. Inside, a labyrinth of hallways houses not only the expected offices and cavernous private party

rooms but also state-of-the-art training facilities and computer labs for the players. "There's a computer room with a 10MB fiber blink from campus and Internet access," says Mr. Gueltzow, explaining how time used to be lost by athletes running back and forth between practice and campus. "Not bad." He adds that the players "have 16- and 18-hour days. They *live* here. They eat, breathe, live football all year 'round." Indeed, the small but fully functional computer lab was packed. In addition to their regular class schedules, players also have to study plays, strategy and other teams' games. There is even a lecture hall-style auditorium where the Cardinals review game footage from a video projector, and they are tested on it before game time.

Testing telecommunications equipment, however, is not for amateurs. Nearly 22,000 feet of fiber optics, 36,000 feet of coaxial cable and a still-uncounted length of broadcast wiring ("probably several hundred thousand feet") were laid by contracted professionals, and mistakes can be costly, both in dollars and resources. There is the issue of running commercials and replays on the scoreboard and stadium television monitors in synch with network commercial time-outs. Another challenge is to provide a more or less equal video signal from monitors from one end of the stadium to the other, with 26 camera hookups representing up to four television networks and the MegaVision video scoreboard. Even minor discrepancies can be disturbing. If you have "too much signal, you have breaks in the picture," he explains. "Too little, not much picture at all." And misdirection of a signal could be deadly. "You don't want to land an airplane in here," says Mr. Gueltzow, referring to random signals' potential to interfere with air traffic and pilots' controls.

When he is not working with the stadium or elsewhere in IT, Mr. Gueltzow is still involved with the Cardinals. He is in his fourth season of running headsets for the Louisville coaches, both at home and on the road, "for the fun of it." He says he is "basically done" with the stadium project—"billing, little things" still remain—but his involvement will continue as long as this season, and possibly the next one, go on. Where there's a bug to be worked out, he's calling around to solve it.

"There's not a bad seat in the house," he says. "See, when you look out [at the shape of the field], it's bowed. I've been all over the country and there's none better. Where you see wood, that's real wood. Where you see marble, that's real marble." Beyond cosmetics, however, Mr. Gueltzow is proud of his work with the university's first football stadium of its very own.

"It was a fun project," he says. "I enjoyed it. How many chances do you get to set up a football stadium? Once in a lifetime to build something like that, to be involved with that."