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# HOME COURT ADVANTAGE

*Broadcast services and ROI at American Airlines Arena*

By Tim Kridel & Cynthia Wisheart



**T**he Miami Heat was number four in attendance for the 2014 season, and the team's AmericanAirlines Arena ranked fifth nationally in ticket sales for concerts and other events, according to Pollstar. Impressive under any circumstances, perhaps more so when you remember that the arena is 15 years old. So besides having the goods on the court (or the stage), how does the organization pull a crowd and keep them happy and eager to return? Part of the answer is always technology.

"You compete with the comfort of home," says David Vickery, director of arena broadcast services for AmericanAirlines Arena and The HEAT Group. Vickery and his team have responded to this truism in a uniquely integrated and sophisticated way. Their internal broadcast network serves stakeholders across the HEAT organization, as well as the arena enterprise department, tenants, and guests, bringing people together in new ways with a focus on ROI. Just one recent example: When the coaches wanted to be able to watch live practices from multiple locations, a channel was simply added to the RF channel band for existing displays. Further, in keeping with the integrated approach, this new channel also streamlined the media process for the marketing department; they could monitor practice and see when individual players were freeing up for media interviews.

This kind of cross-organizational thinking drives the technology upgrades and system design at the arena. It also defines the network as a living, breathing thing. As a combination of fiber, RF, copper, and now Dante, it's flexible and scalable in a way that transcends cliché. Vickery says all technical requests and capital purchases are vetted with multiple departments—sales, marketing, and operations. His team can often present the technology in a way that suggests new sales opportunities for sponsors, such as the ability to own an exclusive "moment" when every display in the arena (hundreds of them) turns to their brand.

This sales-savvy approach also extends to attracting promoters to the venue; the arena network delivers an easy-to-use production infrastructure, as well as technology-enabled sales and marketing opportunities. For example, Vickery recalls a recent racecar event and how the multi-format network translated to ease of use for the tenant. "The pit area was at

the back of the arena. We fully expected them to lay out fiber from that area to our broadcast truck area, but oddly enough, they ran RF. We took their signal and put it into our QMOD broadcasting modulators and were able to demodulate it from the lower part to the upper part of the building and disseminate that out to the RF system which took the HD-SDI signal and turned it back into a QAM channel across our network to HD-SDI to fiber, back to HD-SDI, back to QAM, and out to the entire building. We have the flexibility to move signal and keep the quality high. I'm very proud of that. We heard from them later that we were one of the simplest facilities they've ever been to."

This is characteristic of the broadcast services team approach—to think about the signal from everyone's perspective. It is also a way of thinking about technology that enterprises of any size can benefit from. When AV is not siloed and out of context, it can better serve the overall goals of the organization. In addition to helping with operational problem solving, smart AV people can also visualize how their systems can support sales, marketing, market share success, and other ROI objectives. As technology specialists, they will often have unique ideas to bring to the table on whatever scale is available.

Of course in the case of Vickery and his team, it helps that the scale is large and well funded. It helps to have an owner—Micky Arison—who, as the chairman of Carnival Cruises, "gets" technology and understands how important staying current is. It helps, Vickery says, that the broadcast group is under the marketing group, so new technical features can be considered from an operations standpoint and from a marketing and sales standpoint. Vickery says that when he considers a request for new technology, he's not just looking at the technical practicality. He's also



The arena broadcast services for the American Airlines Arena and the HEAT Group serves coaches and players, fans, broadcasters, sponsors, and visiting promoters with a network that uses RF /HD modulation in innovative ways alongside (and in conjunction with) IP, fiber, and copper—in both English and Spanish.

looking at how it might create a sales or branding opportunity—either for the Heat or the arena itself, or for one of the many promoters who use the facility (and have a choice of other facilities in town).

That intense competition influenced several upgrades, starting with the 2009 switch from SD to HD in production, distribution, and signage. The building’s original RF distribution system, installed by Comcast, required only minor upgrades to the riser amplifiers and distribution taps to support a new HD-RF digital QAM platform, anchored by Contemporary Research’s QMOD line. Vickery also liked the latency advantage that RF provided over IP. Since then, Vickery has continued to add to both his RF and IP networks, choosing strategically to take advantage of evolving technology on all fronts.

The Contemporary Research products enable the broadcast services department to combine HD encoding with QAM modulation and choose from a variety of HD formats, bit resolutions, and embedded audio options. The system includes seven QMOD-SDI modulators and a QMOD-HDSC scaler modulator. The HDSC scales the NBA statistics computer display onto a QAM channel that’s fed to displays around the venue. The SDI units handle closed-channel playback of special-event content for the premium lounges.

“With the ability to create our own HD Digital QAM channels, we can shape any combination of special game broadcast channels as well as support our corporate partners with new exciting ad configurations,” Vickery says.

“The HD upgrade required the need to modulate HD-SDI feeds from the HEATV control room router to specific in-arena broadcast channels that would inject into the new HD channel lineup from Comcast,” Vickery says. “The 139-channel Clear QAM distribution system serves more than 500 television displays across the facility without any cable boxes.”

THE QMOD technology allows Vickery to combine HD encoding and QAM modulation, with selections for bit resolution, HD formatting choices, and embedded audio selection—clearly the best choice for the HD application.

The facility also uses 10 ATSC+SDI tuner demodulators for applications such as post-game production. “We have been able to reduce our cost with these demodulators, which provide HD-SDI outputs and

avoid the need of costly HDMI-to-HD-SDI converters,” Vickery says.

Further, the QMOD-SDI HD-SDI modulators serve the television broadcast back-hall feed to confidence monitors at the broadcast positions courtside on the Heat floor. Remote broadcasters like Sun Network, ESPN, and TNT put out monitor displays on the press tables courtside for Heat game broadcast via coax by way of composite video. These displays are a direct feed from the production truck, usually a router or aux-bus feed from the HD production switcher, which is downconverted to standard-def coax distribution. “We came up with the idea to encode the truck’s HD-SDI signal at the main I/O panel using the QMODs,” Vickery says. “The result is a closed-circuit RF channel distribution to these broadcast positions via our arena digital RF system, eliminating the need for multiple analog Video D’s, coaxial cabling, or multiple video monitors for ‘Home’ or ‘Visitor’ broadcasts.” With the ability to isolate these RF channels and inject them into the arena RF channel lineup only at the courtside press tables, the arena can assure the broadcasters the security and privacy of these production signals. This also applies to other areas within the arena where HD-RF content is produced or shown only to a private audience, example, Hyde Lounge, Flagship Lounges, and the Dewar’s Clubhouse.

## 4K IN FIVE TO SIX

All of the revenue from games and other events doesn’t mean broadcast services has carte blanche when it comes to buying gear. Just the opposite: The department focuses on products and technologies that it can use for five to six years rather than doing frequent forklift upgrades.

Vickery and four other full-time employees know what to look for partly because they service, maintain, and install most of the venue’s AV systems themselves—unlike most of their peers at other arenas and stadiums. They also attend shows such as NAB and InfoComm, which are where they saw several 4K demos. But they came away feeling that 4K’s ecosystem—including standards, cameras, recording, archiving, distribution, and workflow—isn’t yet mature enough to be worth deploying.

“I’ve seen a bunch of different codecs to deliver 4K, but no one has said, ‘This is the concrete standard that we’re all going to work around,’”

Vickery says. “We usually look to SMTPE for that [guidance] in the broadcast world.

“Our assessment is that it’s probably another four years out before that entire industry wraps itself around it with all of those components. So we see our current 1080i [system] sitting for at least the next four to five years.”

## A SMART SIGNAGE STRATEGY

The fiscal-responsibility strategy extends to AmericanAirlines Arena’s signage network. In 2009, when it began upgrading to HD, the arena had a marketing agreement with Sony that included displays.

Now its marketing partner is Samsung, so it’s replacing those with DMD displays (DMD75D, DMD65D, DMD55D, DMD48D, and DMD40D). “We chose the displays for the 2<sup>nd</sup> generation internal SSSP players that enables a variety of useful digital signage options and the internal digital clear-quam tuner for maximum flexibility by either IP address connectivity or HD-RF digital QAM delivery,” Vickery says. They integrate nicely with the QMOD platform because they can be addressed as signage or TVs.

“We developed these rackmount systems that would play content or intermix with video production and go across the RF system,” Vickery says. “I’ve been able to reduce my digital signage costs by going to a really nice display that handles the RF spectrum we’re in, and I can avoid these costly monitors and the PC associated with it.

“If I needed to change [content], I can address the television across the network and say, ‘On this scenario, look to this channel because we’re doing this event that has this type of sponsor.’ There’s a lot of flexibility.”

Some businesses try to save money by buying consumer TVs rather than pro-grade displays. But AmericanAirlines Arena decided the Samsungs were worth the premium because of features such as power supplies and other components designed for constant operation, and the internal signage player.

“They’re awesome,” Vickery says of his lineup of Samsung DMD displays. “I can’t say enough about them. They’re the cat’s meow right now. I haven’t seen anybody get anything close to it.”

For the larger videowall displays the lineup

includes Samsung UD55D and UD46D, with typical configurations including 1x3, 1x5, 2x2, 2x8, and 4x4.

The scoreboard LEDs are HD-SDI via single mode fiber. Ribbon and fascia boards are also the same LED technology and receive content via HD-SDI over fiber.

## DON’T TRY THIS AT HOME

One way that some arenas and stadiums try to one-up man caves is by providing content that’s unavailable at home, such as additional camera angles. That exclusive content can be delivered to signage in suites, for example, as well as over Wi-Fi to the devices that fans bring to games.

That additional content also creates additional advertising, sponsorship, and other revenue opportunities. At AmericanAirlines Arena, an example is ads in an L-bar configuration framing the content.

Competing with home also means eliminating a few things commonly found there, such as set-top boxes (STBs) in the suites.

“I love the fact that we don’t have to have a box,” Vickery says. “They’re annoying. They fail. It’s a huge maintenance issue.”

Broadcast services worked with Comcast, the local cable provider, to identify the channels that would most interest fans while they’re at games. Those are pushed over IP to the arena, which then inserts its own channels, for a total of about 138, all in clear QAM so the displays can simply scan for them. The Comcast channels also have the same numbers as at home so fans don’t have to learn a new lineup or search a guide.

“We took the continuity of home and brought it here,” Vickery says. “A lot of patrons say that’s a cool feature.”

Like many other sports facilities, AmericanAirlines Arena has added Wi-Fi, partly because it’s something that most fans have at home.

“It’s not just the experience of being in the building and the energy that happens in a live scenario. It’s also bringing those comforts of home—and giving them more, if possible. That’s always on our mind: How can we do it better?”

They’re not the only ones asking the questions. “The Orlando Magic is coming in to look at our systems to see what they can do in their stadium,” Vickery says. “Their stadium is 5 years old, ours is 15. What does that tell you?”

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