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YETI: THE FUTURE OF RETAIL AV

Integrated digital signage, audio, live music and sports together create an experience in Chicago

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YETI: THE FUTURE OF RETAIL AV

Integrated digital signage, audio, live music and sports together create an experience in Chicago.

By Claudia Kienzle

Whereas AV in retail was once an afterthought, there's no question that, now, AV is a fundamental part of the customer experience. Today, the technologies used inside stores are positioned to *engage* rather than simply to promote, and they drive greater interactivity between the business and the shopper.

More than ever before, the AV integrator makes a difference in how AV technology is deployed to serve the broader customer experience. The Werd Company is one such integration firm, specializing in AV integration for retail spaces; further bolstering its value is the company's experience in live-event production.

A recent project with the YETI retail store in Chicago IL highlights The Werd Company's overall value proposition. It provided comprehensive design-and-integration services for the 4,900-square-foot store's AV technology. In addition to in-store AV and digital signage, The Werd Company also designed a live-sound and lighting system to support live events.

"We started working with YETI about five years ago in Austin TX, providing live-production services for concerts, broadcasts and other events," Drew Dunavan, Chief of Operations at The Werd Company, recalled. "That relationship evolved as they started to open retail stores across the nation, but [it] brought with it a unique approach to commercial AV design with roots in the creative-events world. The Chicago store is an excellent example of an AV system that can serve their retail purposes, [as well as] provide live-event support for concerts, product launches [and] special in-store film screenings."

The store, which opened on September 29, 2019, and which is located in the Wicker Park neighborhood, certainly embraces AV as a way to promote YETI's broad product inventory, which includes outdoor-living products, drinkware and coolers. The completed AV system is something of a hybrid, bringing together legacy and IP-networked technologies; however, it leans heavily on the latter.

IP Ecosystem

The IP ecosystem incorporates virtually all audio and control elements on campus, including Atlona's Velocity AV control platform, Audinate's Dante for multi-channel audio networking and a Symetrix Prism DSP. The last integrates with Dante to implement, control and maintain a system of networked accessories within the store and the performance area, including microphones, loudspeakers, power amplifiers and mixing consoles.

The video side brings together systems with a mix of IP, HDBaseT and HDMI technologies, along with a 3x3 videowall that YETI employees can locally control. Additionally, engineers from The Werd Company, as well as the support team, can remotely access all elements of the house and event AV system, along with three digital-signage displays to manage playlists and update content.

"We integrated the video matrix wall in this space along with a stage backdrop, and [we] added a full lighting rig and PA system," Dunavan said. "Everything is plug-and-play-ready, so they are immediately ready to go for bands, film screenings and promotional events."

The ground-up nature of the project meant that The Werd Company was entrenched in the earliest conceptual design

Visual content on YETI's 3x3 videowall can be locally or remotely managed through IP and HDBaseT switching.

> **There is essentially no limit to where staff can send audio content. That includes the video matrix wall, where they often localize audio for film screenings.**

phases, working closely with Lake Flato (the architectural firm) and Manito Construction (the prime contractor). Early work included plotting and submitting a low-voltage plan that encompassed all low-voltage-wiring needs and locations, as well as wallplates, loudspeaker placement, displays and supporting AV components. Ali Ramzanali, Partner and CEO of The Werd Company, led this technical detailing.

"Being the low-voltage-management partner meant that we were heavily involved in the IT-network design, [as well as] facilitating all components of the underlying Layer 1 infrastructure," Ramzanali said. "We worked closely with the other trades across security, shopper tracking, structured-cable planning with CPS, and YETI's own IT department for Wi-Fi and point-of-sale [POS] systems to formulate the logistics of implementation."

As has increasingly become standard, AV and IT systems were co-located in the same space. Dunavan and his team consolidated core AV systems—the Prism DSP and remote-management PC among them—into a standalone MSTR Brand ER42, a 42-inch enclosed rack with active cooling and horizontal lacing bars for wire management. Cat6 patch panels distribute discrete, segregated network connectivity to Ubiquiti's UniFi system, driven by its USG-Pro4 gateway and US-24-500W 24-port switches that securely connect the AV network to YETI's IT infrastructure.

Rack Infrastructure

The remaining rack infrastructure includes a Luxul AV Series AMS-1816 managed switch for managing video transmission, as well as three Dante-enabled Crown DCi 4|300DA amplifiers for multi-zone audio.

"The Luxul switch [is] configured specifically for this video matrix wall," Ramzanali said. "The 18-port switch configuration provides us with extreme flexibility to send modular content formats to the LG 55-inch displays. The Crowns amplify the audio signals from the videowall sources over Dante to 70V JBL Control speakers for daily delivery of background and foreground music."

Atlona's Velocity IP Gateway control processor—the final rack component—is a particularly important one, touching nearly every component of the system. It's a mix of HDBaseT switcher and IP routing equipment that manages 4K or HD content for the videowall.

The videowall architecture includes a JunoX 451 HDBaseT switcher, which is used to switch between four selectable video-channel sources. Once selected, the signal moves into an AV-over-IP system powered through the Luxul switch. That switch feeds nine AV-over-IP receivers, each of which is dedicated to one display in the 3x3 videowall. The videowall can translate a single, 12-foot-wide, seven-foot-high image to all nine displays, or it can populate separate images to different displays. An Atlona AT-HDVS-210H-TX-WP single-gang, dual-HDMI wallplate provides auxiliary inputs for the same wall, allowing staff to present content from standalone devices.

"Both are HDBaseT switchers that integrate seamlessly with the Velocity IP gateway," Ramzanali explained. "The JunoX can switch between the 'YETI Presents' playlist input, a DirecTV signal for live television and two auxiliary inputs from the HDVS wallplate. Using Velocity control, we can direct which input goes to which display by simply pressing the button."

The "YETI Presents" content was the primary driver in the creation of the videowall, Dunavan revealed. The playlists are composed entirely of YETI-produced content created to promote the brand; content includes short films, documentary miniseries and short promotional pieces that include product overviews. The Werd Company works

closely with the marketing team and other departments to manage content scheduling and distribution after production has been completed.

"Most of the 'YETI Presents' content that lives on this wall exists in rotating playlists that are scheduled in loops," Dunavan remarked. "They give us the content, and we ensure that it's properly formatted before building the playlists and schedules. We maintain the digital infrastructure throughout, although they can manually override our schedules if they're staging an event or [if they] want to switch over to DirecTV for the Chicago Bears game. This is all part

AV technology, which subtly blends into the retail environment, is an integral part of the customer experience at YETI.

YETI's AV-integration partner, The Werd Company, maintains control of the Ambassador Wall—visual content populating three digital-signage displays.

> ## 'We assembled the skeleton of the system, mapped the signal flow into the software and programmed the devices as if they were already installed.'
>
> ### —Ali Ramzanali

of The Werd Company's continued support services, which have proven especially popular in retail environments."

The Werd Company also maintains the digital-signage content and infrastructure, which includes three 43-inch LG screens mounted in portrait mode. These screens represent the Ambassador Wall: a set of carefully calibrated, picturesque displays that feature YETI's brand ambassadors in their respective elements. A Vilros Raspberry Pi 3 Model B+ (Plus) single-board computer supports digital-signage-content playback. Local staff cannot override con-

tent on the Ambassador Wall, marking a difference from the video matrix wall.

"More than the videowall [does], these screens represent the spirit and nature of the YETI brand," Dunavan reflected. "The ambassadors will move every few minutes and occasionally look at the camera before resuming as a still image. The dynamics capture shopper attention, so it's important to maintain those visuals. Therefore, everything is scheduled, monitored and executed remotely for YETI through our subscription model."

Off-Site Preparation

Most of the system programming was managed through Symetrix and Velocity. According to Ramzanali, "The programming was mostly done in advance from our Austin TX headquarters. We assembled the skeleton of the system, mapped the signal flow into the software and programmed the devices as if they were already installed." That programming work, along with the reduced architecture that IP offers, helped

keep labor costs manageable for all parties.

"Man hours and cable management make a big difference to the bottom line," Dunavan added. "We can be much more efficient with IP, as we can easily install systems in spaces that are challenging to access. IP removes the physical constraints and the point-to-point limitations that we especially see with audio and control."

Ramzanali noted that Velocity has been valuable from the perspective of capacity. "We're already moving a lot of data, and we're only at approximately 60-percent capacity," Ramzanali stated. "There's plenty of room to scale, as this IP gateway can manage up to 250 devices. The benefits also extend to the end user through an intuitive, touch-based matrix that's easy to learn and use."

An Atlona Velocity VTP-800 eight-inch touchscreen supports the end-user portion of the control architecture. The touchscreen is installed in the manager's office and it's remotely powered over Ethernet, like many of the components living on the IP network. The VTP-800 is programmed to control three individual zones: the retail zone, the "YETI Presents" zone and the stage.

"The manager can easily switch between different input options using the panel, and

The open store environment relies heavily on high-end audio and strategic loudspeaker positioning for sonic branding.

even create one master zone," Dunavan explained. "Each zone has a dedicated set of selectable inputs, and there is volume control for individual zones. It's also very easy to serve ambient music for the entire store or use the microphone input to make announcements."

Because all audio moves over Dante, there's essentially no limit as regards the locations to which staff can send audio content; this includes the video matrix wall, where staff members often localize audio for film screenings.

"We have multiple audio inputs for that wall that automatically play over the local JBL loudspeakers, and, simultaneously, [can] be pushed across the retail floor," Ramzanali noted. "The Dante network gives us all the flexibility we need to route audio signals and process them through Symetrix. We can easily assign speakers to specific zones; establish our gain structure, EQ and compression within the DSP; and set limited control parameters using Velocity for safety and ease of use. Just as Velocity does for control, Dante streamlines and simplifies our audio."

Additionally, the integration team added a Dante-cored Attero Tech by QSC unD3IO for audio support. This multi-I/O audio interface is mainly used for single-mic setups or DJ inputs onstage. The Attero Tech wallplate further simplified integration by allowing installers to add traditional RCA and XLR input connections, while only requiring a single Cat6 cable run.

"The Attero Tech by QSC wallplate can have up to four different audio I/O connections," Ramzanali remarked. "Before Dante, that would have meant running three or four individual lines to that wallbox, terminating them and then working through other challenges that come from the mixing of balanced and unbalanced connections. Dante removes all that. We just run a single line, tell Symetrix what their gain structures are and set scenes to modify

EQUIPMENT

BRAND AMBASSADOR
3 Forging Mount FM9381-B TV wallmount brackets
3 LG 43SM5KE-B SM5KE Series 43" LED displays
3 Samsung EVO Select microSD memory cards (128GB)
3 Vilros Raspberry Pi 3 Model B+ (Plus) kits

CONSOLE & RACK
1 Apple iPad 9.7"
1 Applied Research and Technology (ART) PS4x4 PRO dual LED metered PDS
1 Behringer X32 Producer digital mixer
1 Behringer X-DANTE 32-channel Dante expansion card
1 Cable Matters 24-port blank patch panel
1 OSP Cases HYC-2UD-CFI drawer w/cubed foam insert
3 OSP Cases HYC-4UD 4-space rack drawers
1 OSP Cases MC14U-M32R-16SL 16-space ATA mixer/amp rack
1 OSP Cases RS1U-SLIDER universal flat 1-space sliding shelf
4 OSP Cases SFM-3 SuperFlex GOLD premium microphone cables (3')

CONTROL
1 Atlona AT-JUNO-451-HDBT 4K HDR 4-input HDMI and HDBaseT switcher
1 Atlona AT-PS-POE power-over-Ethernet mid-span power supply
1 Atlona AT-VGW-250 Velocity Control Gateway AV control processor
1 Atlona AT-VTP-800-BL Velocity System 8" touchpanel (black)
1 Atlona AT-VTP-TMK tabletop mounting kit for Velocity Control System touchpanel
1 Beelink BT3 PRO II mini PC
12 Etekcity VeSync Smart Plug 4-pack mini Wi-Fi outlets
1 Insignia NS-HZ313 digital-to-analog converter
1 Sabrent HB-UM43 4-port USB 3.0 hub w/power switches
2 Structured Cable Products 324 24-port loaded Cat5e UTP patch panels (1RU)
48 Structured Cable Products C5PC-3-BL Cat5e patch cables (enhanced 350MHz Cat5e 4PR stranded UTP, PVC jacket (3', blue)
1 Symetrix Prism 8x8 DSP audio processor w/Dante
1 Ubiquiti Networks UAP-AC-M high-performance, outdoor, 2x2 MIMO, 802.11ac dual-band access point
1 Ubiquiti Networks UAP-AC-M-PRO high-performance, outdoor, 3x3 MIMO, 802.11ac dual-band access point
1 Ubiquiti Networks UCK-G2 UniFi cloud key
2 Ubiquiti Networks US-24-500W UniFi Switch PoE+ 24 (500W)
40 Vandesail RJ45 Cat6 keystone jacks

HOUSE AUDIO (BASEMENT)
3 Crown DCi 4|300DA 4-channel, 300W @ 4Ω power amps w/Dante/AES67 networked audio and 70V/100V
1 MSTR Brand 16/2OFC-HD-WT 500' white 16AWG 2C cable
2 MSTR Brand 16/4OFC-WT 500' white 16AWG 4C cables

HOUSE AUDIO (MAIN FLOOR)
1 Attero Tech by QSC unD3IO 2-in, 2-out I/O interface
2 JBL Control 24CT 4" ceiling speakers w/transformers (pair)
6 JBL Control 25AV compact indoor/outdoor background/foreground speakers
4 JBL Control 60PS/T pendant subs w/crossover
12 JBL Control 65P/T compact, full-range pendant speakers

MICS/DIS
4 Kopul PDI-40 high-performance passive direct boxes
1 Radial Engineering Trim-Two passive stereo direct box
1 Sennheiser e 600 drum mic kit
2 Sennheiser e 609 silver supercardioid dynamic guitar mics
6 Sennheiser e 935 cardioid dynamic vocal mics
2 Shure SM57 cardioid dynamic instrument mics

PA SYSTEM
4 AmazonBasics XLR male-to-female mic cables

2 Audinate Dante AVIO 1-channel analog output adapters
2 dB Technologies SUB 15H semi-horn-loaded active class-D subs (15", black)
2 dB Technologies DWK 20 caster kits
4 dB Technologies LVX XM 12" professional stage monitors
1 dB Technologies RDNET Control 2 master control unit
2 dB Technologies VIO X12 active 2-way speakers
2 dB Technologies WB-VIOX12H horizontal wall brackets

POWER/SIGNAL
4 Elite Core CSI-SS-15 15' straight-to-straight instrument cables
12 Elite Core CSM2-NN-10 tour-grade quality mic cables w/Neutrik XX connectors (10')
8 Elite Core CSM2-NN-15 tour-grade quality mic cables w/Neutrik XX connectors (15')
12 Elite Core CSM2-NN-25 tour-grade quality mic cables w/Neutrik XX connectors (25')
2 Elite Core CSM2-NN-50 tour-grade quality mic cables w/ Neutrik XX connectors (50')
2 Elite Core PERS84-BF-25 Perseus 8-channel snakes w/4 XLR returns box to fan snake w/TECHFLEX (25')
1 Elite Core SP-MOS-6 stage power 14AWG multi-outlet stringer (6 outlets, 32')
6 Luxury Office 4-way power splitters
1 Structured Cable Products CAT6-BK Cat6 enhanced cable (black, 1,000')

RACK EQUIPMENT
1 Applied Research and Technology (ART) PS4x4 PRO dual LED metered PDS
10 Miady short power extension cord outlet savers, 16AWG/13A, 3 prong (10 pack, black, 8")
10 Middle Atlantic LBP-2A lace bars (2" offset, L-shaped, 10 pieces)
1 MSTR Brand ER42 42-space enclosed rack w/active cooling
10 MSTR Brand LACEBAR horizontal rack bars
30 Structured Cable Products C5PC-1-BL Cat5e patch cables (blue, 1')
20 Structured Cable Products C5PC-2-BL Cat5e patch cables (blue, 2')
20 Structured Cable Products C5PC-5-BL Cat5e patch cables (blue, 5')
2 Tripp Lite PDUV15 1.44kW single-phase 120V basic PDUs
1 Tripp Lite SMART1500LCD SmartPro LCD 120V 1,500VA 900W line-interactive UPS

STAGE LIGHTING
8 ADJ Products O Slim 1.5 wrap-around truss lighting clamps
1 Chauvet DJ Obey 6 universal, compact controller
1 Elite Core VRL VRLDMXRJ45-3P-SET 3-pin XLR to RJ45 adapter set (1 male and 1 female)
4 Gearlux 3-pin DMX cables (25')
10 JPM Industries 18x18W par lights
1 X-Sense remote-control outlet wireless light switch

STANDS
8 König & Meyer 210/9 mic stands
4 König & Meyer 259 mic stands

VIDEOWALL
1 Atlona AT-HDVS-210H-TX-WP wallplate switcher for HDMI
20 Aurum HDMI cables (5')
9 Just Add Power VBS-HDIP-508POE 3G receivers
1 Just Add Power VBS-HDIP-707POE 3G transmitter
1 LG 55LV35AW-9P 55" 3x3 videowall bundle w/Peerless mount
1 Luxul AMS-1816P AV Series 18-port gigabit PoE+ L2/L3 managed switch
1 Samsung EVO Select microSD memory card (128GB)
1 Vilros Raspberry Pi 3 Model B+ (Plus) kit

List is edited from information supplied by The Werd Company.

The Werd Company architected an AV-over-IP solution to move and control all AV content throughout the store.

YETI's flagship store leverages AV technology to bolster brand recognition for its broad product inventory.

the signal route."

The Symetrix DSP integrates the different audio sources for both the inputs and the outs, according to Ramzanali. "We used Attero Tech by QSC to provide a variety of solutions for any audio sources that required a physical analog input. When the space is modified for events, those same audio inputs can be rerouted to the Dante card of a Behringer X32 Producer digital audio console and act as a stage snake." Ramzanali continued, "It's incredible to have Velocity's control system talk to Symetrix to instantaneously reconfigure a workflow that, only a few years ago, would have required lots of time, unplugging, replugging and cable wrapping."

Near-Zero Latency

Ramzanali also noted that the audio feed from the Behringer console could be sent to the entire store by running it through the same Ethernet cable, via the Dante card, with near-zero latency.

Mirroring the reasoning behind the selection of Velocity, The Werd Company chose the Symetrix Prism in large part for its scalability. According to Dunavan, "An important part of any successful AV installation is having the foresight and ability to expand for future usage or technology upgrades. The Prism system is expandable, and [it] integrates very well with third-party components. It's just a very simple and reliable audio interface that touches every part of the audio system, including the stage."

Beyond the X32 mixer, the event system's

audio technology includes a dB Technologies PA system with VIO-X12 active, two-way loudspeakers; LVX-XM-12 active, two-way stage monitors; and an AMS-SUB-15H active subwoofer. A dB Technologies RD-NET Control 2 system enables The Werd Company's engineers to configure the suspended powered speakers without a cherry picker; meanwhile, a small arsenal of Shure SM57 and Sennheiser e 600, e 609 and e 935 microphones captures vocals and instruments from performances. Elite Core provides the stagebox and microphone cables to support the entire system, along with cables and connectors for the Chauvet DJ lighting system.

"The Chauvet lighting console controls a line of 18x18W LED Par fixtures over DMX, and they're generally run in tandem with audio mixed at the Behringer," Dunavan explained. "The entire stage system has all the breakouts required for a

live-sound professional to mix the band or produce a live broadcast."

A Model For The Future

For the team at The Werd Company, the YETI Chicago retail store is a model for where AV integration at retail is headed, while retaining unique flourishes.

"Chicago is a city that embraces sports and music nearly equally, so it was critical to have that big videowall to show home-team games, [as well as to] design a stage that touring artists and their fans can appreciate," Dunavan declared. "Both of these strategies have helped the Chicago store truly integrate with their clientele, [providing] a space where they can see and touch [YETI's] products while enjoying the vibe. It's a place where local shoppers can hang out and absorb the YETI retail experience in an engaging manner."