

# BELDEN

SENDING ALL THE RIGHT SIGNALS

## Diversified/NBCU Boston Media Center

NBCU partnered with Diversified to bring its TV stations, cable news channel and regional sports network together under one roof, requiring cabling and connectivity to support the unique needs of each network in a single-story building



Our End-to-End Expertise  
Your End-to-End Solution



# Customer

As a leading technology solutions provider serving *Fortune 500* clients around the world, Diversified operates from more than 55 offices across the globe. With its specialized teams of technical experts, the company designs and delivers digital experiences that help clients meet their strategic business objectives, enhancing operations and increasing productivity.

NBC Universal (NBCU) Boston recently partnered with Diversified to bring its NBC and Telemundo TV stations, cable news channel and regional sports network together under one roof.

Previously in multiple locations throughout the Boston area, NBCU brought all local business units under one roof and built a

multi-million-dollar, state-of-the-art, 160,000-square-foot facility: the largest media-company investment ever in Boston. Part of Needham Crossing Business Park, NBCU Boston Media Center is home to six production studios, six broadcast control rooms and a podcast studio.





## Challenge

The task of bringing four separate properties together was going to require cabling and connectivity infrastructure that could support the unique needs of each network – especially in a single-story building.

“In a facility of that size, distance is a concern for baseband copper cabling when it comes to not only data, but also video and audio,” says Brian Reitmeyer, senior design engineer at Diversified.

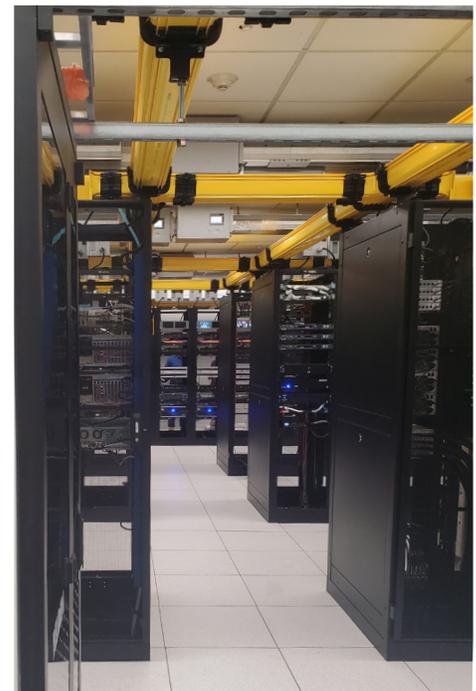
In addition to looking for a solution that would maintain excellent performance across long runs, NBCU Boston was also looking for cabling that would support the future of its networks as they create broadcast, cable, digital and OTT content.



## Discovery

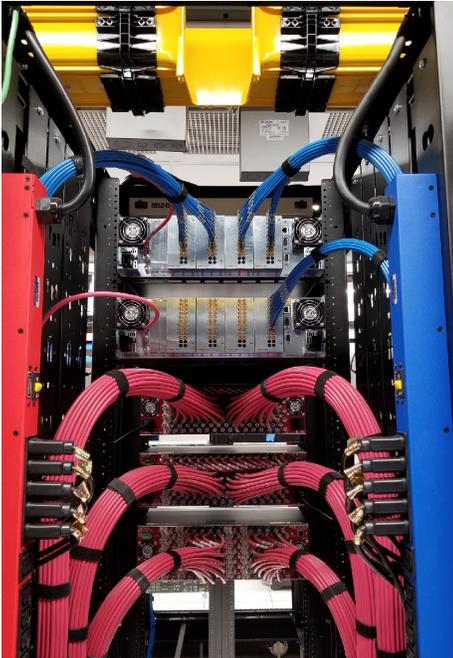
“Diversified and Belden have worked together on quite a few projects around the globe,” says Thomas Ramsay, senior project manager for Diversified. “We come together with Belden on nearly every NBC Universal project.”

After learning about Belden’s DCX System for the first time at the National Association of Broadcasters (NAB) Show a few years ago, Diversified knew that this fiber management system – combined with Belden’s commitment to customer support – would give NBCU Boston what it needed for its new Media Center.





# Solution



Altogether, the NBCU Boston Media Center runs on more than 1.5 million feet of Belden cable, including:

- 70,000 ft of Category 6A 10GXS Cable for broadcast, video and audio transmission
- 44,000 ft of security cable for cameras and access control
- 163,000 ft of Category 6 patch cords
- 21,000 ft of fiber patch cords
- 170,000 ft of coax cable

A complete Belden fiber infrastructure package solved the distance and bandwidth issues that Reitmeyer and his engineering team were initially concerned about.

“While infrastructure is often overlooked in a facility like this, I think it was one of the most impressive pieces of the build,” says Ramsay. “We combined Belden fiber cable and Fusion Splice-On Connectors with DCX System cabinets, a series of trunks throughout the facility, rack-mounted frames and jumpers. It was an impressive feat to see it all come together.”



Belden’s new DCX System helps support cable management and handles high amounts of fiber connections through innovations such as:

- Easy patch cord access via pull-out trays and clearance around each connector
- Cable and patch cord protection through articulated trays and slack management
- Front-access design that allows for multiple configurations and facilitates scalability while optimizing square footage
- Flippable modular cassettes, which offer easy fiber polarity management that maintains port numbering sequences

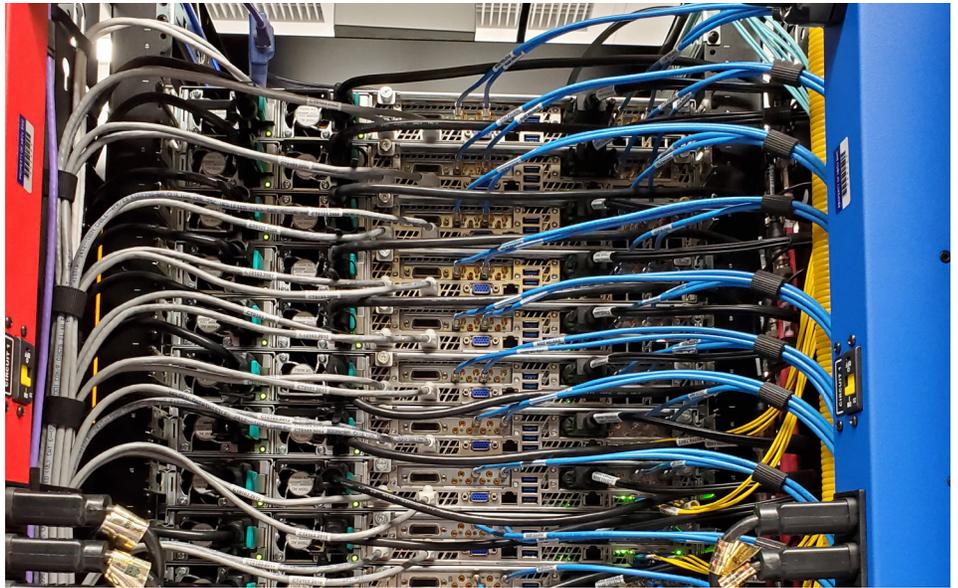
Once the DCX System was on-site, Ramsay says it was easy to deploy, which helped keep the project on track. “The person who did our fiber testing and certification came to me specifically to say, ‘I really like this cabinet. It’s making my job a lot easier.’ NBCU now has a single location where everything lands. When it’s time to upgrade or add something new, they know where to go and how to do it. They can really take ownership of the system.”



Extremely long fiber runs were created from the central equipment room out to IDF rooms and other distribution points throughout the facility. “We used a mixture of fiber and copper cabling from those distribution points to open workspaces, offices, conference rooms and other technical spaces to not only minimize long copper runs, but also provide a future upgrade path as technologies evolve,” says Reitmeyer. “Our longest run of fiber was just under 1,000 feet, which is generally more than three times the maximum length allowed for copper cabling. Almost everything was pre-planned, pre-measured and pre-terminated, including patch cords, which allowed us to save substantially on installation time and labor.”

Contributing even more to labor savings was the use of Belden’s REVConnect® Connectivity System, which features a fast, simple termination process that limits rework and testing – and applies to any Category 5e, 6 or 6A component.

NBCU Boston Media Center also includes more than 180 custom ganged Belden racks for problem-free, multiple-rack installation to support high density.





# Results

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The end-to-end Belden system has prepared NBC Universal to bring the studios, offices and production facilities for WBTS/NBC 10 Boston, WNEU, 24-hour cable network NECN, NBC Sports Boston and all associated digital operations into one ultra-modern facility with technology and headroom that will allow them to grow and try innovative new ways to deliver content to audiences.

“What we typically hear from our broadcast clients – NBC included – is, ‘Belden is a brand we have experience with and we can rely on,’ ” says Ramsay. “It’s something they know and trust. It ends up making everybody very happy.”



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