

Case Study



World's Largest Credit Union Grows with Custom Cable's Zoned Architecture

When Navy Federal Credit Union sought to add two new buildings to its Pensacola campus, it turned to a proven partner to support its specialized voice, data and video needs. They teamed with Custom Cable Industries, Inc., to engineer a reliable, zoned cabling solution that provided all buildings with redundant pathways supporting 10 Gigabit linespeeds.



customcable.com

Corporate Office
3221 Cherry Palm Dr.
Tampa, FL 33619
Tel 813.623.2232
Fax 813.623.3534

Anaheim, CA
Orlando, FL

Growing challenges

Navy Federal Credit Union is the world's largest organization of its kind with over 3.2 million members and \$39 billion in assets. In addition to its headquarters in the Virginia suburbs of Washington, D.C., it has locations around the world including a 62-acre campus in Pensacola, Florida. It's from three large buildings at this site that Navy Federal operates Greater Pensacola; Contact Center, Collections, Real Estate Lending, Consumer/Credit Card Lending, Savings Operations, Education Lending, Operations, Administrative Services, Human Resources, Facilities Management, Security, and Telecommunications Services.

And the credit union is still growing exponentially. In 2008, Navy Federal expanded its 75 year old charter to include all Army and Air Force active duty, retired, reserve, Department of Defense civilians and their families.

To accommodate this significant expansion of its mission, Navy Federal added offices, branches and a strong Internet presence to help grow its financial offerings around the world. It also added two large multi-story buildings to a pre-existing, single-story structure (called Building One) in Pensacola. It was at this original structure six years ago that Navy Federal awarded a competitive contract to Custom Cable to design, assemble and retrofit network cabling to support a 58,000 square foot Member Contact Center.

Custom Cable recommended and installed a zoned, Category 5e (Cat.5e) copper cable solution beneath a building-wide raised floor system to provide future-ready, maximum bandwidth in an easily accessible space. This approach ensured that any future cabling could be easily and inexpensively performed.

Custom Cable also put in place a combined fiber optic and copper backbone between the building's telecommunications rooms (TRs) to further support fast linespeeds to desktops and devices. The design proved prophetic as this backbone eventually helped serve Navy Federal's growing telecommunications needs at two additional new buildings at the Pensacola site.

Planned for the new Building Two was an expanded, central communications hub and larger Contact Center for the entire company. In Building Three, Navy Federal envisioned a sophisticated Network Equipment Room (NER) and other expanded data operations.

Once again, a trusted collaborator was needed to orchestrate the technological and physical changes needed to manage Navy Federal's increasing responsibilities.

Partners' role for Custom Cable

To provide uninterrupted service to its members in the event of an emergency, Navy Federal split its Contact Center Operations between headquarters in Vienna, Virginia and Pensacola. The hiring of employees in the local area and staff relocation lead Navy Federal to lease a nearby empty supermarket. A general contractor (GC) gutted the building and made plans to retrofit it as a temporary adjunct Contact Center. Navy Federal contacted Custom Cable's Kevin Reeves, Zoned Cabling Project Manager, to design and wire this temporary installation for its telecommunications needs.

"Custom Cable was awarded this new business because Navy Federal was so pleased with our original work on Building One," recalls Reeves. "I was thrilled that they wanted us back to handle all low voltage cabling for the temporary Contact Center, as well as the two new buildings."

Christopher Chyz, Navy Federal's Manager of IT Services for the Greater Pensacola area, agrees. "Custom Cable took pride in its work with Building One's cabling plant. The attention to detail and keeping the job ahead of schedule was superb. So, when campus expansion was approved, there was no question that Custom Cable would be the cabling contractor for the project."

After cabling the temporary Contact Center, Custom Cable began designing and installing the horizontal network in Building Two, working directly with Navy Federal's IT and Planning professionals to cable the structure. Custom Cable engineered and pre-assembled all cables at its Tampa manufacturing facility and shipped them pre-cut, labeled and ready-tested for a quick, hassle-free on-site installation that did not impede the work of other trades professionals.

"Typically, communications cable installation falls under the GC hired by the corporate client," Reeves said. "But in this situation, we were treated as part of the Navy Federal design team, which made us trusted partners throughout the entire endeavor," he added. "At times, even the GC would ask us questions about various stages of building progress."



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Navy Federal's Manager IT
Services, Greater Pensacola Area.



Future-ready philosophy

Since 95 percent of Building Two was for expanded Contact Center and Communications Training Facilities, Reeves and his team designed the horizontal network to accommodate 141 cabling zones and 12 TRs distributed among the three-story building. A fiber optic backbone capable of accommodating 10 Gigabit linespeeds was installed from two main communications closets in Building One. Unshielded Cat.5e cabling was run through each zone to every desktop, cubicle, server or Contact Center device to provide the maximum headroom even during peak use times. Connections at user outlets and patch panels were standard RJ-45 plugs.

“This end result was a highly redundant, inter-building copper and fiber pathway capable of 10G to support future growth,” Chyz said. “Additionally, Custom Cable completed the full installation on a compressed timeline with the cable plant having a ‘showcase look,’ not a rush job.”

Chyz adds that zoned cabling facilitates an open desk floor plan that is highly beneficial to Navy Federal's growing operations. “When business units change, we often have to reconfigure the furniture layout,” he says. “Zone architecture lets us move or add furniture with minimal recabling. It's also a clean solution because the number of cables beneath the raised floor is kept to a minimum.”

Thanks to this design which employs bundles of 24 cables per zone with snap-in connectors, Navy Federal technical staff can now handle moves, additions or changes (MACs) themselves without calling in expensive, outside cabling contractors. They simply lift the raised floor panels over the required zone, snap in extension cable(s) using the RJ-45 connector on the CP box, and execute MACs as needed.

Says Reeves, “Custom Cable also embraces a universal cable concept where cable is installed, future-ready, with enough bandwidth to adequately handle a wide range of devices, including telephony, data or video. We know that our customers need their technology to move at the ever-increasing speed of business. So, our solutions are designed, engineered, manufactured and installed to meet these smart demands.”

Reeves adds, “We don't view cable as just a voice or data line. This open use philosophy let customers add new devices or evolving technology as needed without concern for the type of equipment being supported. Cable is a pipeline for whatever the customer wants to put through it. And because the bandwidth demand of new technology grows rapidly, we want customers to be ready now to accept new devices without slowing down everything else on the network.”

In Building Three, which contained the NER, multiple video-equipped conference rooms and the site's medical facility, Custom Cable designed a 100-zone infrastructure, each holding 24 cables. This was similar to Building Two. Again, a fiber optic backbone was created to support Cat.5e unshielded cabling beneath the raised floor in each zone. Twenty-five network racks and forty equipment cabinets were located in the NER along with nine TRs serving the entire building.

Navy Federal Sustainable Goals (LEED Gold Certification)

Navy Federal has benefited from the cabling system's unique attributes and reliable performance. Due to the cabling architecture's flexibility, it saves time and money because changes are quick, easy, and don't require removing and disposing of existing workstation cabling. This forward thinking sustainable approach helps reduce waste which contributes to Navy Federal's sustainable goal of LEED Gold certification.

In addition, copper and fiber cables have been exceptionally trustworthy, according to Chyz. “In six years, not one of these cables within the Pensacola complex has been replaced due to failure or compromised performance.” He adds that Custom Cable's recommended infrastructure, combining maximum-bandwidth fiber backbones with high-speed Cat.5e cabling also helps improve staff workflows for greater customer satisfaction.

A winning alliance has resulted between Custom Cable and Navy Federal. “Custom Cable is a preferred vendor for our cabling plant projects,” says Chyz. “They continue to go above and beyond the expected level of service and quality on our work.”

Navy Federal continues to grow by offering world-class service to all U.S. servicemen, women and their families. Custom Cable provides the infrastructure platform to make this growth cost-effective and seamless.

LEED Standardizes Sustainability

The Leadership in Energy and Environmental Design (LEED) “green building” rating system was introduced in 1998 by the U.S. Green Building Council (USGBC) to provide standardization for environmentally sustainable construction. LEED has since grown to encompass more than 14,000 projects throughout the U.S. and 30 countries covering 1.062 billion square feet of development area. It is an open, transparent process where more than 10,000 membership groups within the USGBC publicly review technical criteria of LEED committees for approval. Points are assigned based on a building's adherence to various standards. A structure attaining 39 – 51 points is considered Gold level. Navy Federal's Building 2 and 3 projects have been registered with the USGBC and have a goal to achieve LEED Gold certification.