



Passive Optical LAN benefits for Kraus-Anderson headquarters

- 66% less equipment in main datacenter
- 85% space savings in cable pathways
- 100% elimination of telecom rooms!
- Higher gigabit Ethernet density
- 10 gigabit ready infrastructure
- Strict security in open modern workspace
- Centralized management improves security
- Tangible contribution to green initiatives
- Esthetically pleasing architectural design

Tellabs and ECSI provide Kraus-Anderson’s new HQ “Something Special”

ECSI installs Tellabs Optical LAN to help Kraus-Anderson overcome architectural, and business challenges, commonly encountered with a contemporary building and modern workplace.

Kraus-Anderson (K-A) invested in constructing a new 100,000 square foot corporate headquarters in downtown Minneapolis to create a state-of-the-art campus that enabled a modern collaborative work environment, and above all, helped them attract, retain, and develop the best employee talent possible in this progressive metropolitan setting. This called for a contemporary building and business design that features expansive interior, with open ceilings, large windows for natural light and collaborative open office architecture – even the old beige desktop computer and black telephone disappear, and their functionality relocated into the cloud. Kraus-Anderson also knew that this forward-looking 5-story building, and its elite workforce, would demand an equally high-performance and secure network, with ubiquitous accessing through either wired or wireless connectivity. K-A added one more caveat – they want the building’s network to be “something special”.



Kraus-Anderson presented the above challenge to ECSI System Integrators. K-A knew that meeting these forward-looking workplace criteria would be difficult, however ECSI had some innovative ideas. In fact, ECSI already had the ideal modern fiber-based LAN for K-A installed at their own corporate headquarters – the Tellabs™ Optical LAN (OLAN):

- **Space Savings**
- **Strict Security**
- **Something Special**

Space Savings

Tellabs Optical LAN space savings comes in 3 critical locations in the K-A building – the data center, wall and ceiling pathways and the telecommunications closets.

In the data center, the switching equipment that would have normally monopolized three 7 feet telecom racks, with OLAN only occupies three-quarters of one telecom rack of space. And, the cabling in the data center might normally have been multiple 8-inch bundles of CAT6 copper cabling is reduced less than 1-inch of Single Mode Fiber (SMF) cabling. This represents up to 85% savings in space in the data center alone. This is important because the Kraus-Anderson building did not have a traditional sized data center room and the smaller OLAN equipment helped shrink the room size by 2/3rd its normal size and repurpose that saved space toward business needs. *“The footprint of our main data center is tiny and utilizing the Optical LAN architecture that fit into our smaller data center was optimal,”* said Mike Benz, Kraus-Anderson’s Vice President of Information Technology.

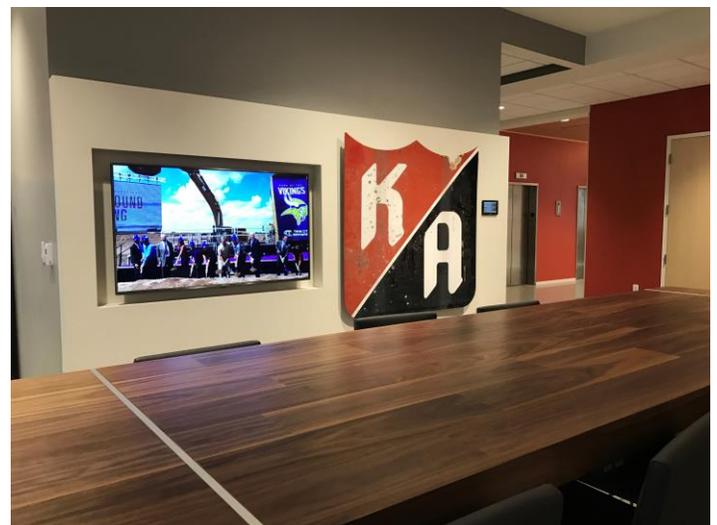
Optical LAN introduces far less cabling up the K-A building risers and across the horizontal pathways. OLAN architecture is a point-to-multipoint architecture where one fiber cable can feed 128 gigabit Ethernet ports. In a traditional point-to-point LAN architecture that would have meant a very large bundle of 128 copper cables. *“Our building has open ceilings and it very nice not to have to see the big blue bundles of copper cable running through all these open ceilings - the Optical LAN only shows a few fiber cables,”* commented Benz.

As for the telecommunications rooms, that space was eliminated in the K-A building and once again allowing more space to be used for business purposes. Not only did the removal of telecom rooms save K-A space, it also saved them money and energy, since dedicated mini air handlers where not needed. Instead, ECSI designed and installed innovative ceiling enclosures that housed the Passive Optical Splitters, Optical Network Terminals (ONT) and powering. These lockable drop-down consolidation boxes were positioned in common areas for secure easy access – but, truly they house unmanaged equipment that requires little to no human touches after installation. *“We used an elegant integrated passive optical splitter combined with 48 Vdc powering solution,”* said Rich Hanson, ECSI Vice-President, *“48 Vdc powered the OLAN ONTs and the ONTs powered all the building’s connected devices using Power over Ethernet, including the wireless access points.”*

About Kraus-Anderson

Established in 1897, Kraus-Anderson® Construction Company is one of the nation’s premier commercial general contractors and construction managers. Kraus-Anderson, an Affirmative Action, Equal Employment Opportunity Employer, is headquartered in Minneapolis, Minn. and has regional offices in Madison, Wis., Bismarck, N.D., and Duluth, Bemidji and Rochester Minn.

<https://www.krausanderson.com/>





About ECSI

Since 1997 ECSI has provided integrated technology solutions to organizations small and large across the Midwest. ECSI is a full-service communications contractor specializing in engineering, integration, and support for low voltage systems. We can install products by hundreds of manufacturers and have access to the latest and best product lines. ECSI is a proven industry leader having worked with regional organizations such as Allina Health and AMC Theatres to major multi-national corporations including Delta Airlines and Mayo Health Systems.

<http://www.ecsillc.com/>



Strict Security

Kraus-Anderson has a better security posture with Tellabs Optical LAN because fiber cabling is far more secure than copper and because OLAN's centralized management eliminates points of vulnerability out in their extended network.

Because of the architectural design of the K-A building there is cabling running through open unprotected areas. It was imperative that fiber cabling be used for K-A to minimize the breach risk, since unlike copper, fiber does not radiate the data being transported within it, and fiber is far more difficult to tap than copper. *"It is my experience that fiber cabling is more secure than copper and it is reassuring that the Optical LAN design promotes the use of fiber throughout our building,"* commented Benz.

Optical LAN centralized intelligence and management means that the brains of the end-to-end IT system are locked away in the main data center in the Optical Line Terminal (OLT) and Tellabs™ Panorama™ PON Manager. From one location, a single human can orchestrate all the Moves, Adds and Changes called for during daily operations. First, the Panorama PON Manager global policy templates/profiles ensure consistent repeatable policies and procedures (including IT security policies and procedures) are implemented with the least amount of human intervention. Second, the OLAN ONTs distributed across the work area have no management access interface, they store no user information nor network information.

Something Special

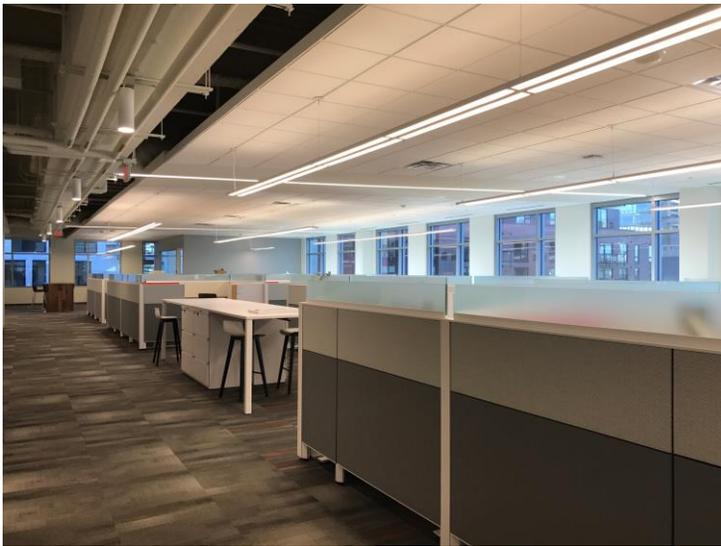
The Kraus-Anderson leadership's vision from day-1 was that their new downtown headquarters would be special, and its network was no exception. The "Something Special" associated with Optical LAN is achieved through the fiber-based network's sustainability and its future-ready advantage.

Optical LAN make tangible contribution to K-A building's sustainability goals by reducing the use of copper (a precious metal) in favor of fiber (silicon based, 2nd most abundant element on earth). Plastics have been reduced because Single Mode Fiber is 60% smaller in diameter and you need less cabling with the point-to-multipoint design. This certainly compliments the building's LEED certification efforts.

With the fiber cabling and Optical LAN in place, the Kraus-Anderson's highly talented progressive workforce can enjoy gigabit speed connectivity and ultra-fast wireless performance. However, what is special about this infrastructure is that it stands ready to support 10G and 40G speeds in the future with no business disrupting rip-and-replace upgrade. Unlike copper cabling, fiber cabling has no known capacity limitations and has proven capable of speeds in the petabyte range. A petabyte is 1000x faster than terabyte, which is 1000x faster than a gigabyte. Tellabs' Optical LAN also takes into consideration future impacts for system wavelengths, powering and space to eliminate any potential conflicts with future 10G or 40G speeds. That means today's single-mode fiber cabling, passive optical splitters and fiber management infrastructure can support future generations of 10G XGS-PON and 40G NG-PON. *"We get asked why we did not deploy a wireless-only network in the building,"* said Jake Boerboon, Kraus-Anderson Project Manager, *"our balanced design with both wireless, and Optical LAN connectivity, gives us the highest network availability and superior performance across both."*

Contemporary Modern Workplace High-Speed Connectivity

Both Kraus-Anderson's downtown headquarters, and its fiber-based network, are truly something special. The Tellabs Optical LAN helped K-A overcome architectural and business challenges associated with modern buildings and contemporary workplace – providing the necessary space savings, security, sustainability and performance. The Kraus-Anderson building now stands as a cornerstone of an up-and-coming Elliot Park, East Town neighborhood and a corporate tool to attract and retain the best employee talents for years to come.



About Tellabs

Tellabs is leading the future of hospitality networking with access solutions for today, poised to deliver modern high-performance solutions for the future. Fast, reliable and secure connectivity has never been in more demand for hotel and resort connectivity. Tellabs' sole focus is to deliver simple, secure, scalable, and stable networking, that optimizes the hotel guest experience.

www.tellabs.com/



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