Corning Cable Systems
LANscape®
Fiber Cabling Solutions for Premises Networks

Navistar International Technology and Engineering Center

Introduction

Navistar International, manufacturer of the International brand of trucks, buses, and engines, has long been at the forefront of manufacturing companies worldwide. Ranked as a top Fortune 200 company, Navistar has led the competition in combined sales of medium and heavy trucks in the U.S. and Canada for 17 consecutive years. Headquartered in Chicago, Navistar has approximately 15,000 employees in more than 40 locations worldwide.

Navistar International can trace its roots back to the early 1800s at the start of the modern industrial age. At the turn of the century, the company was marketing mechanical farm equipment as International Harvester. The product line extended quickly to motorized farm trucks and then to the first factory-made school bus. In the 1950s, with the beginning of the interstate highway system, International Harvester entered the truck business. Organizational focus in 1986 concentrated the company on its truck and engine operations under the new name of Navistar.

Maintaining its enviable position over time has required an emphasis on operational and technological excellence. In fact, Navistar's corporate slogan sums it up: "It's beyond greater performance. It's about moving ahead of your expectations. Delivering. Beyond the expected."

Building faster networks

Staying on the leading edge of technology is key at Navistar's Technology and Engineering Center, located in Fort Wayne, Indiana, where the Navistar trucks of the future are designed and tested on a state-of-the-art computer network. The principal network architect for the Center, Steve Ehlerding, foresaw the need for growing bandwidth on his network and began the process of upgrading the Center's backbone to Gigabit Ethernet. After evaluating Gigabit Ethernet products, Ehlerding selected switches from Extreme Networks. These switches are equipped with the new MT-RJ 2-fiber small form factor transceivers to deliver double the port density over existing fiber connections, while resulting in lower per port costs.

Navistar International Technology and Engineering Center

Changes in Fiber Connectivity

The move to Gigabit Ethernet and to the Extreme switches alerted Ehlerding to a couple of important changes in the fiber connectivity world. First, a new breed of 2-fiber connectors offers significant advantages and benefits for his network over the traditional single-fiber connectors. Secondly, the new IEEE Gigabit Ethernet standard is quite demanding, even over multimode fiber; consequently, attention needs to be given to fiber choice to achieve expected performance while maintaining reasonable system costs – both network equipment and cabling.

CORNING
Discovering Beyond Imagination

Corning Cable Systems
LANscape®
Fiber Cabling Solutions for Premises Networks

Navistar International Technology and Engineering Center

The Cabling Solution

After further evaluation, Ehlerding selected Corning Cable Systems' optical fiber cable with guaranteed Gigabit Ethernet link length performance over 62.5 micron multimode fiber. Eight 24-fiber MIC® tight-buffered cables were chosen for inside building backbone runs, and one 24-fiber ALTOS® loose tube cable was chosen for an outside backbone application. These connected the main distribution frame to seven telecommunications rooms around the Center.

To terminate the fibers, Ehlerding accepted a proposal to beta test the new Corning Cable Systems UniCam® MT-RJ field-installable connectors. These connectors have two fiber stubs epoxied and polished in a single ferrule at the factory. Field installation requires simply stripping and cleaving the field fibers and inserting two fibers into the back of each connector to make two mechanical splices.

The cables were pulled by the onsite contractor, Carey Systems of Troy, Ohio, who was trained in the Corning Cable Systems LANscape® Extended Warranty Program℠. Corning Cable Systems sent a team of engineers to work alongside Carey's team, led by Leslee Mescher, to supervise and test the installation of the 168 connectors. Both power meter and OTDR tested the installed links. Carey and Navistar approved and accepted the successful installation.

Finally, to connect the cable plant to the new Extreme Networks switches and to existing network components, Navistar used a combination of Corning Cable Systems' factory-assembled MT-RJ to MT-RJ and MT-RJ to SC duplex patch cords.

Conclusion

Navistar has successfully realized one of the first end-to-end Gigabit Ethernet systems utilizing the new MT-RJ 2-fiber connectivity. According to Steve Ehlerding, the MT-RJ Connector Solution is becoming the new standard for fiber connectivity. He expects all new installs within Navistar to follow with the technology.

CORNING
Discovering Beyond Imagination

Corning Cable Systems LLC • PO Box 489 • Hickory, NC 28603-0489 USA • 1-800-743-2675
FAX: 828-327-5973 • International: 828-327-5000 • http://www.corning.com/cablesystems • Corning Cable Systems reserves the right to improve, enhance, and modify the features and specifications of Corning Cable Systems' products without prior notification. MIC, ALTOS, UniCam, and LANscape are registered trademarks of Corning Cable Systems Brands, Inc. All other trademarks are the properties of their respective owners. Printed in USA.
LAN-63A / January 2001 / 30M