

IBDN *Success Stories*



INGRAM MICRO CANADA

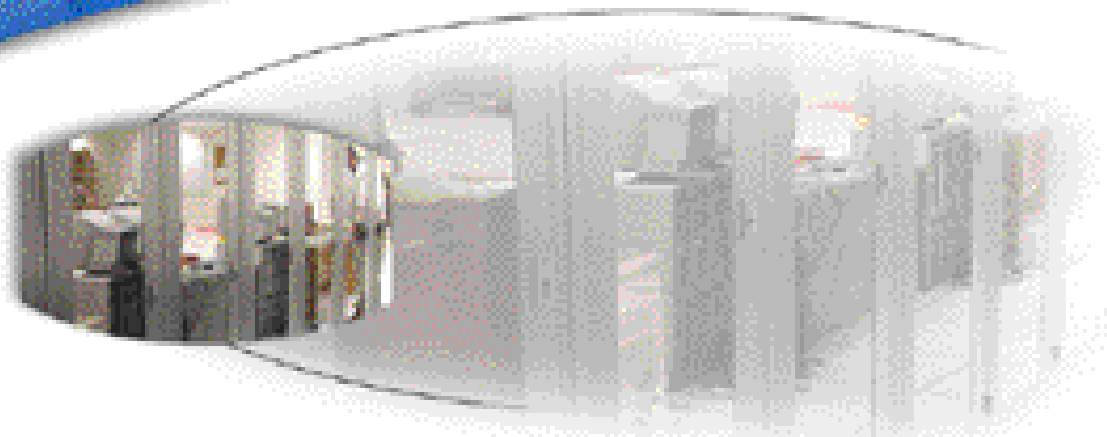


About Ingram Micro Inc.

- Ingram Micro Inc. (Canada) is the nation's largest distributor of computer hardware and software and is a subsidiary of California-based Ingram Micro Inc., the world's largest wholesale provider of technology products with 1999 sales of US\$26.5 billion worldwide. They began operations in 1989 and quickly leveraged their commitments to outstanding service, value and partnership to become the Canadian marketplace leader of the 1990s.
- Today, Ingram Micro Canada markets and distributes more than 50,000 products from more than 700 leading manufacturers of computer hardware, software, peripheral, supplies and accessory products. Ingram Micro Canada serves the needs of their customer base of more than 16,000 dealers, resellers and VARs accross Canada from their new corporate facility in Mississauga, and from regional centers in Vancouver and Montreal as well as sales offices in Calgary, Ottawa and Halifax.

• Today, Ingram Micro Canada markets and distributes more than 50,000 products from more than 700 leading manufacturers of computer hardware, software, peripheral and service products.

Technology



The Challenge:

- After a decade of rapid growth that saw their position evolve from that of a niche player to Canada's largest provider of microcomputer products, Ingram Micro Canada decided to consolidate their multiple Toronto locations into a new Corporate Headquarters facility. Combining a 501,000 square foot distribution centre with 470,000 square feet of office space, the new facility was designed to use state-of-the-art technologies to strengthen all aspects of their operations and to secure their leadership position in the Canadian marketplace well into the new millennium.
- Leveraging technology to improve service, reduce costs and increase their competitive position has always been a key strategy for Ingram Micro Canada. The capability to support a wide range of technology and communications driven services such as on-line ordering and order tracking, EDI services, and on-line product information had to be 'designed in' to the communications infrastructure of the new facility. In addition, the infrastructure requirements of a 4000 call per day Call Centre and a 10,000 call per month Tech Support Department had to be accommodated, as well as the extensive voice, data, image and security networking requirements found in an almost one million square foot facility.
- Ingram Micro Canada turned to Bell Canada and NORDX/CDT to plan, design and implement a structured cabling system that would meet current and future needs for performance and growth, and provide an 'open' cabling infrastructure that would support Ingram Micro's future technology decisions and directions. In addition, the proposed solution would have to provide outstanding levels of reliability, availability and manageability while being capable of delivering any service or application anywhere in the huge facility. And, not unusual in today's business world, the proposed solution had to provide all these capabilities at a competitive price.

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The Solution:

- In their role as a Certified System Vendor of NORDX/CDT's IBDN Structured Cabling Systems, Bell Canada carefully identified and analyzed Ingram Micro's infrastructure needs and concluded that a 'fiber-to-the-desk' solution using NORDX/CDT's IBDN FiberExpress System would provide the optimum cabling system for the new facility.

- The IBDN FiberExpress System is NORDX/CDT's exclusive portfolio of high performance optical fiber cabling products, and includes a comprehensive selection of fully integrated optical fiber cables, connectors and cable management systems.

- Working with NORDX/CDT's Technology Department, Bell Canada and NORDX/CDT engineers cooperated in the design of an advanced cabling solution for Ingram Micro that capitalizes on the extended reach, high performance, ease of use, maintainability and cost-effectiveness of the FiberExpress System.

- The flexibility and features of the FiberExpress System allowed for the design and implementation of a standards compliant (TIA/EIA TSB-72)

'centralized fiber' solution that concentrates switches and hubs in a single, centralized equipment room. To overcome space limitations, the FiberExpress Manager cable management system was installed to provide super high-density cable termination as well as easy cable access and management within the centralized facility. The extended reach of FiberExpress System cables; up to 300 meters under TSB-72, means that any workstation anywhere in the facility can be reached directly from the centralized switches and hubs without the need for remote telecommunications closets or additional active components. Flexibility points were established by installing strategically located consolidation points in ceiling spaces to provide for growth and change management. The easy-to-use FiberExpress Bar was used to terminate cables in work areas, and its unobtrusive design and rugged construction works equally well in both the office and distribution centre locations.

- Once the overall system design strategy was finalized, designers turned their attention to selecting FiberExpress System features and options that would optimize performance while simplifying

the initial installation and the on-going maintenance of the system. Proper decisions now could lower installation and maintenance costs while improving reliability and performance at the same time. Ingram Micro opted for the FiberExpress System's factory assembled fiber ribbon cables equipped with snap-together multi-fiber MTP and MT-RJ connectors. For workstation terminations, Ingram Micro wanted to take advantage of newly emerging 'small form factor' (SFF) technology, and specified the use of MT-RJ type mini-dual fiber connectors. NORDX/CDT responded to Ingram Micro's needs by rapidly developing MT-RJ type 'small form factor' connectors for the Fiber Express System in time to meet the planned installation schedule for the new corporate facility.

- In all, 5244 IBDN FiberExpress System optical fiber channels were installed throughout the new facility and verified under NORDX/CDT's IBDN Certified System Program. The complete System is now covered by NORDX/CDT's 25-Year Product Warranty and Lifetime Application Assurance Program for IBDN Certified Systems.

Technology



The Benefits:

- The FiberExpress System installation at Ingram Micro takes full advantage of the many unique features of the FiberExpress System to overcome the cost and complexity issues that are typically associated with traditional optical fiber cabling technologies. In addition, the system design and system configurations of the FiberExpress System were specifically tuned to meet the unique requirements of Ingram Micro's business systems and new corporate facility.
- When asked to comment on the key benefits of the FiberExpress System, Jonathan Merrell, director of information technology for Ingram Micro Canada; zeroed in on flexibility, manageability and growth, stating that, "Redesign of call centre functions are carried out with minimal business disruptions, and, future growth applications can easily be developed and deployed without worrying about bandwidth limitations."

• 25-Year Product Warranty' assures the system's integrity for years to come and reduces operation and maintenance costs.

The key features and benefits of the FiberExpress System at Ingram Micro include:

- **CENTRALIZED FIBER** solution allows concentration of all hubs and switches in a single equipment room. This can reduce the need and cost of unnecessary hub and switch ports, eliminates the cost and space required for remote telecommunications closets, improves the maintainability and security of network equipment, and reduces crippling network 'downtime'.
- **COMPLIANCE WITH INDUSTRY STANDARDS** such as TIA/EIA TSB-72 standards for centralized optical fiber cabling and IEEE standards for Gigabit Ethernet provides Ingram Micro with an 'open' cabling system that will be capable of supporting future technologies and applications.
- **IBDN SYSTEM CERTIFICATION** protects Ingram Micro's investment by guaranteeing the system's performance and ability to support Ingram Micro's current 100BASE-FX applications as well as the 1000BASE-SX applications that are anticipated in the future.
- **25-YEAR PRODUCT WARRANTY** assures the system's integrity for years to come and reduces operation and maintenance costs.

Highlights



- Ingram Micro's FiberExpress System installation was completed during the late summer of 1999, and their new Canadian Corporate Headquarters went into full operation in October of the same year.

- NORDX/CDT congratulates Ingram Micro Canada on the opening of their new facility. We are proud to be associated with such a dynamic company, and we are confident that the IBDN FiberExpress System installation at Ingram Micro Canada will contribute to their continuing growth and success for many years to come.

**Certified ...
for what's coming Next.**

Company

Ingram Micro Inc. (Canada)

Location

Mississauga, Ontario

Vertical Market

Wholesale Distribution

Number of Sites/Buildings

National Headquarters facility which includes one main office building and one distribution centre

Cabling System

IBDN FiberExpress System

For more information about NORDX/CDT Structured Cabling Systems, including the IBDN FiberExpress System described in this application, please visit us on the web at www.nordx.com.