COMPANY PROFILES

Dynix

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Company status

Dynix is a privately owned company. Major investors with equity ownership and representation on the company's board of directors include 21st Century, Green Leaf Ridge Co., and Stratford Capital Partners.

Senior management

Jack Blount, president and Chief Operating Officer

Ric Rodriguez, Chief Technology Officer

Julian Critchfield, Chief Operating Officer

Mark Calkins, senior vice president, global marketing

Brad Whittle, vice president, sales—The Americas

Mark Carden, vice president, sales Europe, the Middle East, and Africa

Petros Demetriou, vice president, sales—Asia Pacific

Bill Kennedy, vice president, global finance

Corporate background and history

Dynix has a long history as an automation company and the most complex business evolution. The story, however, begins and ends with the name Dynix.

Paul Sybrowsky, Keith Wilson, Ralph Egan, and Jim Wilson founded Dynix Systems, Inc., in 1983. All had previously worked together at a now-defunct library automation company called Computer Technology, Inc. Eyring Research Institute, Inc., a defense contractor, held ownership in both Dynix and Carl Corp. in its early years. Ultimate Corp., a computer hardware manufacturer, became an investor and minority owner in Dynix in 1987.

The principals of the company bought the interests of Eyring in 1987. All and all, the company enjoyed good success during the 1980s, showing steady growth in sales each year.

In 1989, through a separate subsidiary, Dynix quietly began the development of a new automation system called Marquis. The first installation of Marquis occurred in early 1991 to the corporate library at Microsoft. Marquis was built as a client-server architecture with both the server software and the clients running under the OS/2 operating system, which was then a joint project of IBM and Microsoft.

The system operated via the organization's local area network. Marquis was written in the C and Modula-2 programming languages and was based on the SQL Server relational database management system. All the client modules ran under a graphical interface in the OS/2 Presentation Manager.

Beginning in 1990, Ameritech, one of the Baby Bell telephone operating companies based in Chicago, began to take an interest in the library automation business. Its first major foray was the purchase of the Local Systems Division from OCLC. OCLC had had previously acquired two library automation systems, which it marketed under the names LS/2 and LS/2000.

Ameritech then acquired Notis Systems Inc. in October 1991. Notis, a spin-off from Northwestern University, created a mainframe-based library automation system popular with large academic libraries. Jane Burke, a long-time industry veteran, headed Notis and continued as president of Notis as an independent subsidiary of Ameritech.

In January 1992, Ameritech acquired Dynix Systems, Inc., which was also allowed to run as an independent subsidiary. Paul Sybrowsky, co-founder and president of the company, continued in that role following its acquisition.

Notis Systems, then a subsidiary of Ameritech, began work on a new client-server system to succeed its mainframe-based system in 1993. The system, named Horizon, ran under the Unix operating system and the InterBase database management system from Borland International. The new system leveraged the ProPAC graphical online catalog that it had already developed as a front-end for Notis.

A major upheaval occurred in May 1994, when the two companies, Dynix Systems and Notis Systems, which had been allowed to operate as independent subsidiaries, were merged into a single organization under the management of Paul Sybrowsky. Jane Burke left the company at that time.

By June 1994, the company announced that the development of the Notis Horizon product would cease, and that company would offer Marquis as its strategic client-server system. Following this announcement, many Notis personnel who had been at work on Horizon left the company and shortly afterward formed Endeavor Information Systems.

The new company, now known as Ameritech Library Services (ALS), proceeded with aggressive development of its new client-server system based on the Marquis system. By this time about 45 installations of Marquis were in place, 18 to special libraries and 45 to academic. From its inception, Marquis had been designed to work with all types of libraries, though it had a reputation for favoring special libraries.

One of the first steps taken was to rename the system Horizon. The immediate need for this new system involved making the system palatable for the mostly academic libraries that had contracted to purchase Notis Horizon. In short order,

ALS went to work creating a Reserve Book Room module and adding other features required for academic libraries.

Although the immediate need for Horizon was to satisfy the academic libraries that had already contracted for a client-server from ALS, the broader need was to develop a system that could satisfy public libraries as well. The Dynix system was showing its age, and the company would need a modern system to which its largely public library customers could migrate.

In February 1995, Thomas Quarton succeeded Paul Sybrowsky as president of ALS. Sybrowsky continued as chairman of the board of directors. Dynix co-founder Keith Wilson left the company in October 1995. Lana Porter became president of ALS in October 1996.

The company underwent another major change in December 1999 as Ameritech sold its library division to a group of investors. 21st Century Group, LLC, and Green Leaf Ridge, LLC, each made large investments to gain ownership of the company. The 21st Century Group is a relatively small investment firm but has strong ties to the much larger firm Hicks, Muse, Tate, and Furst, Inc.

The president of 21st Century Group, John Ware, serves as chairman of the board of directors of Dynix. Porter and the rest of the executive management remained in place through this transition. As the company changed status from a subsidiary of a public company to being privately held, it also changed its name to epixtech, inc.

Jack Blount was named president and CEO of epixtech in June 2002. Blount came to the company with a strong executive management experience in high technology companies, including Novell, Borland, U.S. Data Authority, J.D. Edwards, and IBM. Under Blount's leadership, the company has focused on aggressive development of the company's software products.

In January 2003, epixtech changed its name to Dynix, completing a long circle of business identities. Although some pundits noted that the name could be considered a throwback to the past, the epixtech name was hardly an asset, and Dynix continued to be one of the most recognized names in the industry.

Dynix today finds itself with a large but waning customer base of libraries running its legacy Dynix system and a steadily growing number of libraries adopting Horizon. The company also owns the Notis library automation system, but the number of libraries running this once renowned system is small.

At this point, many more libraries are using the legacy Dynix system than the company's flagship Horizon system. Libraries that use the Dynix software have generally been satisfied with it and have been reluctant to switch to another system until they are confident all the features they rely on in Dynix are available in their future system.

Dynix Classic essentially peaked in 1997. For the years between 1997 and 1999, the number of new sales of Dynix closely matched the number that left it for other systems. The number of sites installed has slowly declined since 1999. Given the relative maturity of new-generation systems, and other factors, expect a rapid migration of libraries from Dynix in the next few years.

Dynix

Year	Systems
1983	10
1984	22

1985	36
1986	64
1987	72
1988	220
1989	343
1990	453
1991	688
1992	1,083
1993	1,505
1994	1,958
1995	2,371
1997	2,929
1998	2,933
1999	2,934
2001	2,356
2002	2,323

One of the key challenges that Horizon has faced involves the need to work well in a diverse range of libraries. In its early Marquis phase, the system was perceived as being designed for corporate libraries. In reality, it attracted academic libraries in even larger numbers.

Once the system was dubbed Horizon, it was developed and marketed in an even more concerted way to academic libraries. The Dynix customer base is dominated by public libraries.

Dynix has found success in its efforts to make Horizon attractive to public libraries. For 2001 and 2002 more than half the sales of Horizon were to public libraries.

Horizon, the company's flagship library automation system, has seen a steady course of development and adoption by libraries since its beginnings in 1991.

Horizon faltered somewhat among some of the large academic libraries that had implemented it. The University of Kentucky, an Academic Research Library (ARL) member library, moved from Horizon to Ex Libris' Aleph in early 2003.

Overall, Horizon has experienced a steady rate of adoption in a diverse mix of academic and public libraries. By a recent count, Horizon was in use in eight of the 124 ARL member libraries.

Horizon

Year	Systems
1991	2
1992	10
1993	35
1994	108
1995	137

1996	349
1997	411
1998	481
1999	609
2001	958
2002	975

Endeavor Information Systems

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Company status

Endeavor Information Systems is a wholly owned subsidiary of Elsevier, a publicly owned company based in Amsterdam, The Netherlands. Elsevier is part of the Reed Elsevier Group.

Senior management

Roland Dietz, president and Chief Executive Officer
Verne Coppi, vice president of development
Don Muccino, vice president of customer services
Bob Lobascio, vice president of sales
Marianne Parkhill, vice president of marketing
Ralph Placzek, vice president of finance and administration

Corporate background and history

Endeavor Information Systems was founded in September 1994 to develop a new client-server library automation system. The company was started by a group of former employees of Ameritech Library Services (ALS), including Jane Burke, Don Reilly, Verne Coppi, Pat Franklin, and Cindy Miller, following the demise of the Notis Horizon development project at ALS.

The Notis Horizon product was designed to be the successor to the mainframe-based Notis system that was popular in the academic library market in the 1980s. ALS went on to develop a different client-server library automa-

tion system called Horizon that has evolved into the current product now offered by Dynix.

Endeavor began as a company by acquiring a client-server library automation system called Voyager Library Series from a failing library automation company named MARCorp in 1994. MARCorp itself had previously been known under the name Carlyle Systems, a company that enjoyed some success in the 1980s selling a library automation system called Tomus.

Endeavor did not intend to continue the development of the system created by MARCorp, nor the actual code base that it developed at ALS. It had a vision to create an entirely new client-server library automation system. It took concepts learned and experiences gained in the development of the Notis Horizon project to directly compete with its founders' former employer, Dynix.

The current Voyager system was created entirely anew relative to the existing MARCorp product—only the name remained the same.

Jane Burke, formerly president of Notis Systems Inc., became president and Chief Executive Officer of Endeavor Information System in March 1995.

Endeavor received the financial resources to begin development of its new system from Technology Funding, Inc. (TFI), a San Mateo, Calif., investment firm that had previously provided funding for MARCorp. Endeavor redeemed the investments from TFI by February 1999. At this juncture, Burke became chair of Endeavor's board of directors, replacing a representative from TFI. From its inception, Endeavor promoted itself as an employee-owned company.

When Endeavor acquired the Voyager Library Series, only a handful of systems had been sold through its original developer. The original Voyager code base was replaced by programming developed by Endeavor starting with the version released in 1995.

Michigan Technological University became the initial beta test site for the new Voyager system and the company's first new customer.

Endeavor has enjoyed strong sales of Voyager, as shown by the following table that indicates the approximate number of systems installed for each year the company has been in operation:

Voyager

Year	Systems
1995	1
1996	44
1997	100
1998	204
1999	360
2000	800
2001	866
2002	1,100+

From its founding, Endeavor has focused almost exclusively on academic libraries. Voyager has been selected by some of the largest and most prestigious academic libraries in the world. By the end of 2003, Voyager had been selected by 35 of the 124 ARL member libraries—more than any other library automation system.

The Library of Congress chose Voyager in May 1998 as its strategic ILS, replacing many other automation systems. Many of these systems were not Y2K compliant. This $5.6 million project included a large-scale implementation of Voyager to support LC's database of more than 12 million bibliographic records.

More recently, the University of California, Los Angeles, is replacing its Taos system with Voyager. UCLA took the bold step in 1996 to implement the next-generation system Taos system from DRA to replace its richly functional, but non-Y2K compliant locally developed library automation system.

Despite delays and other tribulations, UCLA successfully implemented Taos. When DRA was acquired by Sirsi Corp., development of Taos was discontinued. Following a careful selection process, UCLA selected Voyager as its new system.

In addition to the Voyager ILS, Endeavor has developed many products that provide access to electronic information and to facilitate the development of local digital library collections. ENCompass for Resource Access provides an environment for accessing all the library's electronic resources through a single user interface. It includes a multiprotocol federated searching environment.

ENCompass for Digital Collections provides an environment for creating and providing access to local digital content. Endeavor also offers LinkFinderPlus, an OpenURL-based reference-linking product.

Endeavor underwent a major change in April 2000 when it was acquired by Elsevier Science, a multinational publishing company. Elsevier, based in The Netherlands, is a publicly owned company and a division of Reed Elsevier.

During the initial period of ownership by Elsevier, the company continued to run relatively independently of its parent company, with Jane Burke still at the helm.

In December 2002 Jane Burke stepped down, and Roland Dietz, who had previously been the managing director of global sales and marketing for the Science and Technology Division of Elsevier, was named Endeavor president and CEO. Of the company's original founders, only Verne Coppi remains with the company, though many of the company's original employees remain with it today.

Under Dietz, the relationship between Elsevier and Endeavor is growing closer, taking full advantage of the resources of the larger company. As a subsidiary of Elsevier, Endeavor gains access to vast financial resources to support its own development and to technologies developed at Elsevier.

As electronic content becomes an ever larger part of library automation, Elsevier's experience as one of the largest publishers can be seen as a positive factor. As a publisher with a reputation for aggressive journal pricing that has caused great pressure on library budgets, this association causes some libraries to view Endeavor's ownership by Elsevier with trepidation.

A recent spate of major sales of Voyager seems to indicate that libraries have grown to accept the marriage between Endeavor and Elsevier.

Ex Libris (USA), Inc.

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Company status

Ex Libris (USA), Inc., with offices in Chicago and Boston, is a wholly owned subsidiary of Ex Libris, a privately owned company based in Jerusalem, Israel. The company owns other international subsidiaries in London, Hamburg, Adelaide (Australia), Paris, Luxembourg, and Warsaw. The company employs about 220 people worldwide.

In addition to the wholly owned subsidiaries, the company has local offices and distributors in more than 20 other countries spanning the globe. Walden Israel has made investments in Ex Libris and holds a position on the company's board of directors.

Senior management

Azriel Morag, Chairman of the Board

Matti Shem Tov, president and Chief Executive Officer

Bob Walton, Chairman Ex Libris USA

Oren Beit Arie, vice president, Information Services Division

Katrina Anderson, vice president, U.S. operations

Russell McDonald, vice president, U.S. sales

Corporate background and history

Ex Libris has produced library automation systems for more than 20 years. The company traces its beginnings to the original Automated Library Expandable Program, or Aleph 100 system, that it created at Hebrew University in Jerusalem in about 1980. This first version of the system was written for Control Data Corp. (CDC) mainframes, following a centralized computing model for providing library automation for the various libraries at Hebrew University.

In 1984, the company produced a VAX/VMS version of the system that included improvements such as a table-driven configuration process, which is now referred to as Aleph 200.

Aleph 300, developed starting in 1991, ran on Unix, but used a proprietary structure for its database structures. This version of the system added many new features, including an interlibrary loan modules system. This version of the system used the C-ISAM database and the much of the programming was done in Microfocus Cobol.

Ex Libris began developing Aleph 500, the current instantiation of the system, in 1996. This system, though leveraging the experience behind its predecessor systems, was a totally new system. Aleph 500 followed a

multitier client-server design and used an industry-standard relational database management system—Oracle.

Aleph 500 was designed to run under the Unix operating system. Given the international base of users, Unicode support was essential. This version also included an Application Programming Interface (API) that allowed users to write programs to interact with the system for data extraction, reports, or other needs.

Organizationally, the company has expanded in the course of its 20-year history from a local university-based development to a multinational corporation. Many of the principals and developers that started the company have stayed with the company throughout its business history.

The original group that developed the system was called Aleph Yissum. Following its successful implementation at Hebrew University, the software gained considerable interest and was distributed to other many libraries throughout Europe.

To keep pace with the demands associated with the use of Aleph at these other libraries, a company called Ex Libris, Ltd., was formed in 1986. This company was responsible for sales and support of Aleph to libraries outside Israel, leaving Aleph Yissum to concentrate on developing the software and providing support to the libraries that use it within Israel. In 1995, Aleph Yissum and Ex Libris, Ltd., were merged into a single company called Ex Libris, Ltd.

The next step in the corporate evolution occurred in 1996 with the formation of Ex Libris Group, which became the parent group for the company's subsidiaries and distributors that were being formed throughout the world. At this time, the vast majority of Aleph's customer base lay outside Israel. The ownership of Ex Libris Group was held among the original investors, Hebrew University, and executives within the company.

Azriel Morag is the chairman of the board of directors of Ex Libris Group and is one of the founding principals of the company. Morag also serves as Chairman of Idan Computers, a civil engineering firm he co-founded in 1970 and served as its original president and CEO before founding Ex Libris.

Ehud Arad, also a founder of the company, served as its president and CEO through January 2002, after which Sami Kahmi was appointed to those positions in June 2002. Following Kahmi's short tenure, Matti Shem Tov became the president and CEO of Ex Libris Group. He comes to Ex Libris from Surecomp, an international software development company that develops computer systems for the wholesale banking industry.

Idan Computers,
www.idan.com

Other than the internal consolidation of Aleph Yissum with Ex Libris, the company has been involved with few mergers and acquisitions. In June 1996, Ex Libris acquired Dabis, GmbH, a developer of the BIS library automation system based in Hamburg, Germany.

In previous years Dabis had been successful, with about 530 installed systems in 1994. At the time its acquisition by Ex Libris, the number of installations had contracted to about 300 and the company was in financial difficulty.

Although Aleph had grown to become a popular system in Europe, the system remained almost unknown in North America. One of the few users on this side of the Atlantic was the Library of the Jewish Theological Seminary of America, which had installed Aleph in about 1990. The Judaica Collection at Ohio State University and the Index of Christian Art at Princeton University also used Aleph for their specialized libraries.

The company's first large library customer in the United States was the University of Notre Dame, which selected Aleph 500 in fall 1997.

Ex Libris increased its North American presence in 1998, establishing an office in Chicago for sales and support of Aleph. Carl Grant was appointed president of the newly formed Ex Libris (USA) in December 1998.

Russell McDonald, another industry veteran, previously with Ameritech Library Services and Innovative Interfaces, joined the new company as vice president for sales and marketing. Oren Beit-Arie joined the U.S. office from the company's headquarters in Israel.

Within the next four years, some of the largest and most prestigious libraries in North America selected Aleph 500. Major contracts awarded during this period include:

- McGill University (May 1999)
- University of Iowa (June 1999)
- State University of New York (October 1999)
- Brandeis University (December 1999)
- City University of New York (February 2000)
- MIT (October 2000)
- MnLINK: Minnesota Library Information Network (November 2000)
- Harvard (November 2000)—largest academic library in the world with 90 libraries and 13 million volumes
- University of Maryland (January 2001)
- University of Delaware (October 2001)
- Florida Center for Library Automation (January 2002)
- Florida College System for Library Automation (January 2002)

By 2003, 20 of the 124 ARL member libraries had selected the Aleph 500 library automation system.

Ex Libris made a significant move to expand its products beyond the traditional ILS in February 2000 when it acquired the rights to the SFX context-sensitive reference linking solution from the University of Ghent in Belgium.

Following the products commercialization, Ex Libris focused considerable effort in promoting the conceptual framework of reference linking, establishing the partnerships with publishers and information providers needed to make it work, and on marketing to libraries. Version 2 of SFX was released in January 2003.

By November 2003, more than 450 libraries had purchased SFX. A significant number of libraries that have purchased SFX use library automation systems other than Aleph.

Ex Libris established an office in Boston in May 2000 that would both house the newly formed Information Services Division (ISD) of the company and to provide support for the growing number of east coast libraries using Aleph 500. ISD would take responsibility for future development of SFX and related products. Development for Aleph continues to be done primarily in Israel.

The next major product produced by ISD was MetaLib, a library portal product released in fall 2000. MetaLib provides access to the library's electronic data-

bases and resources and includes a metasearch engine. The results of searches can be sorted and deduplicated. MetaLib also can be used as an interface to direct library users to the native interface of these resources.

In the category of digital library creation products, Ex Libris offers DigiTool. Ex Libris characterizes DigiTool as a digital asset management application that can be used for many digital library projects. The University of Maryland, beginning in October 2001, has been a development partner with Ex Libris for this product.

Ex Libris (USA) underwent a change in management when Carl Grant resigned in March 2003 to become the Chief Operating Officer of the worldwide operations of VTLS. Two other Ex Libris executives, Martha Gettys and Ron Passmore, followed, as well as some lower-level staffers. Meanwhile, Russell McDonald, who had resigned in 2001 and taken a position with Elsevier, returned to Ex Libris as vice president for sales (U.S.) in April 2003.

Bob Walton, a veteran of the library automation industry, was named chairman of the board of Ex Libris (USA) in May 2003. A well-known name in the industry, Walton was previously president of CLSI, and later vice president and Chief Financial Officer of Innovative Interfaces. Walton continues in his position as vice president for finance and business at The College of Wooster. For Ex Libris, Walton's serves a strategic advisor for U.S. operations. Katrina M. Anderson was named vice president of U.S operations in July 2003.

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Company status

GIS Information Systems, Inc., is a privately held company, wholly owned by Croydon Co. In summer 2003, the company went through a transition from a division within a larger corporation that provided financial support for its operations to a standalone company.

Senior management

Bill Schickling, president and Chief Executive Officer

Anita Wagner, Chief Operating Officer

Jim Mieczkowski, Chief Information Officer

Corporate background and history

GIS Information Systems, until recently known as Gaylord Information Systems, was the software division of Gaylord Bros., which also was a significant competitor in the library furniture and supplies division. Gaylord was originally founded in 1896—one of the oldest names in the library industry.

The Croydon Co., the holding company that owned Gaylord Bros., sold the furniture and supplies divisions of the company to rival Demco, Inc., in May 2003. Demco also acquired the Gaylord brand, leading to the renaming of the now stand-alone software division to GIS Information Systems.

The family of Morris H. Bergreen is the majority owner of Croydon Co., which continues ownership of the company. Bergreen, who founded the automation division, died in July 2001. Martin Blackman is a minority owner.

Although the company has generally had stable management, it has made some changes over the years. Industry veteran Michael K. Skiles, formerly a vice president at Data Research Associates (DRA), served as president of the automation division from March 1996 through 1999. Katherine Blauer, named president in 1999, held that position through the recent organizational changes described above in May 2003.

When the automation division became a stand-alone company, William Schickling was appointed president and Chief Executive Officer. He was a Gaylord employee since 1987, the chief architect of Polaris, and the vice president of research and development.

At this time, the company also underwent a downsizing of about a third of its staff. Marty Keeley, vice president of marketing and sales, also left the company. Without the support of the larger company, the automation division had to reduce costs.

The company has had a long history of developing library automation products. In the 1974s Gaylord developed one of the first computerized circulation systems, the GS-2000. Gaylord later developed a circulation system that involved a computer in the library supplemented by a remote computer located in the company's home office for batch processing. This system, called Circ 400, was popular through the mid-1980s.

Gaylord introduced the VAX-based Galaxy integrated library system in 1988, which grew to have a customer base of more than 450 public libraries. For many years Gaylord offered a CD-ROM based cataloging product called SuperCAT. GIS continues to offer SuperCAT to libraries that use Galaxy, Polaris, and other automation systems. Gaylord initiated a data conversion department, offering services ranging from initial shelflist conversion to authority control, or database cleanup or retrospective conversion projects.

Recognizing the technology limitations of the VAX/VMS platform on which Galaxy runs, Gaylord embarked on creating a new system rather than evolving its existing system through the technology changes it would need to thrive in the future.

Gaylord made a strategic decision to base its new system on Microsoft Windows NT, which was just beginning to gain acceptance as a platform for business applications. Gaylord remains the only company in the industry with a sole reliance on Microsoft. Polaris runs only on Microsoft servers, and the only database that the system can use is Microsoft SQL Server.

Gaylord Information Systems began the creation of Polaris, its next-generation library automation system, in about 1995. Montgomery County Library and Information Network Consortium in Pennsylvania became the first beta test site for the system in February 1997.

From its inception, Gaylord considered Polaris to be an automation system that could support larger libraries. Initially the company essentially shunned the smaller public libraries that ran Galaxy. Later the company realized the importance of retaining all its customers and has made aggressive efforts to migrate all its customer base to Polaris, including the small libraries.

The company has had mixed results in migrating its legacy customers. More Galaxy libraries have moved to other systems than have migrated to Polaris. Polaris has enjoyed modest success with relatively large library systems. Examples include:

- Washington County Cooperative Library Services in Oregon, with 15 libraries serving a population of 250,000
- Southern Oregon Libraries Information System (SOLIS), a consortium that serves a population of 177,000 with a total collection of more than 450,000 titles and 880,000 volumes
- Cooperative Libraries Automated Network in Nevada, a consortium of 40 libraries serving a population of 185,000 registered patrons with a combined collection of 1,300,000 items

Since the corporate restructuring in May 2003, the company has made some sales of Polaris. Maricopa County Library District in Arizona, for example, selected Polaris to replace its DRA Classic system. This library serves the unincorporated area of the county that surrounds Phoenix.

Other Polaris sales include public libraries in Spring Hill, Tenn.; McComb, Ohio; Fayetteville, Ark.; Casa Grande, Ariz.; Onslow County, N.C.; the Saline District Library, Mich.; Orangeburg County Library, S.C.; and the Pierce County Library System, Wash. Although most of these libraries are small, these sales reflect some degree of continued confidence in Polaris in the public library market.

Gaylord had licensed 32 implementations of Polaris by the end of 2001 and 48 by the end of 2002 (*Library Journal*).

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Company status

Innovative Interfaces, Inc., is a private company owned by Jerry Kline.

Senior management

Jerry Kline, Chief Executive Officer and president

James Hofbauer, vice president and Chief Financial Officer

Leslie Strause, vice president, worldwide sales

Martha McEvoy, vice president of product development

Neil Block, vice president, North American sales

Sandra Westall, vice president, library service

Betsy Graham, vice president, product management

Chick Markley, vice president, chief product architect

Corporate background and history

Innovative Interfaces was founded by Jerry Kline and Steve Silberstein in 1978 to provide software and connectivity solutions that extended the functionality of the major library automation systems of that time. Innovative's beginnings lie in providing systems for behind-the-scenes library technical services functions.

The company built on and expanded that area of core expertise as it developed software and services that address all aspects of library automation over its 25-year business history. Innovative Interfaces has steadily grown to become one of the major providers of library automation technology.

Until October 2001 co-founders Kline and Silberstein shared mutual ownership of the company. At that time, Kline bought the interests of Silberstein to become the sole owner of the company.

Innovative has been relatively uninvolved in activities related to mergers and acquisitions. The company has managed to avoid being acquired by other corporations and is not reliant on venture capital. Innovative participated in only one corporate acquisition: it acquired the U.K.-based SLS Information Systems in June 1997, and it began supporting of the Libertas library automation system. Innovative has had mixed success in attracting the libraries that had previously used Libertas to Millennium.

In its early years, Innovative Interfaces found a market niche in developing products that worked with existing library automation systems. The company's earliest product, introduced in 1979, was an interface between the CLSI library automation system and OCLC for cataloging. CLSI's Libs100 library automation system was a widely deployed and well-regarded system in its day, but it lacked an easy method for transferring records from OCLC. (The CLSI Libs100 product is now known as Plus from Geac.)

Beginning in 1982, the company created a stand-alone acquisitions module called the Innovaq System 100. The first library to install this system was the University of California—Riverside. The acquisitions system turned out to be just the first of a series of modules that would eventually grow to form a complete library automation system. A serials module was created in 1983.

As with the OCLC interface, the Innovative's acquisitions and serials systems were used in conjunction with circulation systems and online catalogs from

other vendors. Many libraries found the capabilities of Innovaq to be superior to the acquisitions and serials modules of their primary ILS.

In the development of an ILS, acquisitions is typically the last module completed because it is the most complex aspect of library operations and the most difficult to automate. Innovative began its development in this area, building its other modules on the foundation established in acquisitions and serials.

Innovative continued its development, releasing its online catalog in 1985, which it called Innopac. This name was given to the overall product as it grew to become a complete ILS. A circulation module was added in 1987, materials booking in 1989, and a Z39.50 server in 1991. By 1991, Innovative had installed about 250 Innopac systems .

In 1990, Innovative was selected for the ambitious OhioLink project, an effort to create a system to be shared by the colleges and universities throughout Ohio. The goal of the system was to provide both a local automation system in each library and a union catalog that included the holdings of the entire consortium. OhioLink led to the development of the software now known as INN-Reach.

INN-Reach is a system that facilitates resource sharing, allowing a library user to borrow materials from any library within the consortium. With INN-Reach, each library in the consortia has a local library automation system. A union catalog is created that is kept up-to-date in real time as records are added or modified on each local system. An important goal of the project involves reducing the costs to share materials among the participating institutions. It handles a request for an item within the consortia into a circulation transaction rather than following the more expensive interlibrary loan process.

Following a phased-in implementation, OhioLink has grown into a system of 8.1 million shared bibliographic records, with 500,000 users serving 80 institutions: 17 public universities, 39 private colleges, 23 community colleges, and the State Library of Ohio.

As a text-based host-terminal system, Innovative realized that as the broader technology realm shifted to a preference for client-server systems with graphical systems, Innopac in its current form had a limited life expectancy. All the developers of library automation systems in the early 1990s found themselves in the same position.

Just as the company found the evolutionary approach to have served it well in the creation of its initial system, it chose a similar path for its next-generation system. Innovative announced in 1995 that it would be creating a new system called Millennium as the successor to Innopac. The server of Innopac would be enhanced to operate in a client-server architecture and new Java-based graphical clients would be developed to replace the text-based clients.

Innovative chose Java for the development platform for the Millennium clients. At that time Java was establishing itself as the preferred programming language for new applications. It had the advantage of providing a graphical interface that could be run on many different hardware and operating system platforms.

Most libraries ran some version of Microsoft Windows on their library computers, but using Java opened possibilities for supporting Macintosh and Unix workstations as well.

The Millennium modules were released as they were completed: Management Reports in 1997, Circulation in 1998, Serials, Acquisitions, and Cataloging in 1999.

Since Millennium modules were made available, Innovative has been gradually migrating its customer libraries from Innopac. This upgrade is not free and requires some level of re-investment from each library.

The vast majority of the libraries that had Innopac have migrated to Millennium. Through the process, Innovative has maintained an extremely high customer retention rate. Few libraries that have ever run Innopac have migrated to any system other than Millennium.

During this period, according to figures published in *Library Systems Newsletter,* the number of libraries running Innovative's products steadily increased:

Millennium & Innopac

Year	Installations
1993	360
1994	446
1995	543
1996	611
1997	744
1998	707
1999	991
2000	949

In 2001, Millennium had 745 installations to Innopac's 209 installations. By 2002 Millennium installations increased to 871, and Innopac installations were down to 144 (according to numbers published in *Library Journal*).

Innovative's customer base includes a mix of public and academic libraries. For many years Innovative has had its ILS products in more ARL member libraries than its competitors, with 33 of the 124 total. Only in summer 2003 did Voyager pass Millennium among these libraries.

Innovative had created its own proprietary database system for Innopac. When Millennium was developed, it made use of the existing database environment. Responding to the trend away from proprietary databases and toward industry-standard relational databases, Innovative created a version of Millennium for Oracle in 1999.

Once Innovative had completed the core modules for Millennium, it focused its development efforts on creating products beyond traditional ILS functionality. Beginning around 2000, Innovative created a series of new products including MetaFind, WebBridge, Wireless OPAC, and the XML Harvester. 2002 saw the introduction of the company's Electronic Resource Management module, and in 2003 Innovative introduced Metadata Builder, Wireless Workstation, and MetaSource.

The Library Corp.

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Company status

The Library Corp. is a privately owned company.

Senior management

Annette Harwood Murphy, Chief Operating Officer

Gary W. Kirk, vice president

Brad Murphy, vice president, international development

Patricia Calkin, vice president, Denver operations

Corporate background and history

The Library Corp. has a long history in the library automation industry, offering products that correspond to the needs and technologies of the time. The company, founded in 1974, was initially involved with producing a product called Marcfiche, providing cataloging from the Library of Congress to more than 5,000 libraries.

In the1980s The Library Corp. produced BiblioFile, a CD-ROM-based cataloging utility that ran under MS-DOS. The company notes that this was the most popular desktop cataloging utility for technical services in libraries ever produced. During the BiblioFile era, the company grew from eight to a total of 80 employees and the company moved to its current facility in Inwood, W.V.

The Library Corp. introduced The Intelligent Catalog in 1987. This product combined CD-ROM-based delivery of information with artificial intelligence. The company also produced a PC-based circulation module, called BiblioFile Circulation.

In August 1994, The Library Corp. launched an information-finding tool called NlightN. This product created a universal index to allow simultaneous searching of more than 300 databases via the Internet. Although access to the actual content in a few of the databases was provided for free, the majority of the information available through NlightN required a pay-per-view payment. The company withdrew the product in 1996, finding little acceptance of its payment model.

In 1995, the company released ITS for Windows, a successor to the MS-DOS based BiblioFile. This product brought a graphical user interface to the cataloging process and included support for Z39.50 allowing the library to obtain MARC cataloging records from many sources.

The Library Corp. entered the integrated library system arena with its Library.Solution in February 1997. Although the company's previous products

focused on particular aspects of library automation functionality, Library.Solution was the company's first full-fledged ILS.

The company acquired Carl Corp. in June 2000. The Carl library automation system was originally developed by the Colorado Alliance of Research Libraries as a large-scale system running on highly reliable computers from Tandem to provide library automation services to its members.

Following the success of its initial implementation, the software was marketed to other library organizations. The Carl system was deployed in many consortia, large university systems, and municipal libraries.

Carl Systems, Inc., was formed in 1988 when the Colorado Alliance for Research Libraries created a separate for-profit company to market and support the library automation system it developed. In 1993 the company changed its name to Carl Corp. Ward Shaw served as the company's CEO and the chairman of its board of directors.

In 1988 Carl started an article citation service called Uncover, where current articles from many journals were added to a central searchable database available by subscription. In 1992 the service was expanded to include document delivery. With this online system, users could search the Uncover database and request articles to be delivered by fax for a modest fee. Uncover was split off as a separate company in 1993.

In August 1995, Knight Ridder Information acquired the Carl Corp. and Uncover Co. Knight Ridder itself was acquired by the British firm Maid Plc. in November 1997, which renamed the company Dialog Corp.

In January 1999 Dialog Corp. sold the Carl and Uncover assets to Ward Shaw, the original founder of the company. The Uncover Co., which by that time was entangled in copyright-related class-action lawsuits from author groups, was sold to Ingenta in March 2000.

In July 2000 Shaw sold Carl Corp. to The Library Corp. (TLC). Unlike many library automation acquisitions, the acquisition of Carl by TLC was not made with the intent to eventually consolidate library users into a single system.

Library.Solution, TLC's existing product, was designed for small libraries. The Carl system was designed for large multilibrary systems and library consortia. The Library Corp. acquired the system with the intention to continue to develop and support it indefinitely. The product was renamed Carl.Solution, in keeping with the company's product naming conventions.

At the time of the sale the system was in use in 37 sites, serving more than 1,000 individual libraries, a significant contraction from its peak. Major library organizations to leave Carl for other systems have included the Atlanta-Fulton Public Library, the Arrowhead Library System in Minnesota, the Marmot Library Network in Colorado, Pikes Peak Library District in Colorado, and the CW/MARS consortium in Massachusetts.

All the major university library systems that once used Carl have gone to other systems: University of Maryland, University of Hawaii, University of Colorado, University of Idaho, as well as many smaller ones.

From its inception, the Carl system ran on high-end Tandem computers, known for their high fault tolerance and reliability. Compaq acquired Tandem in 1997, and HP subsequently bought Compaq in May 2002, but the Tandem hardware and its NonStop kernel have continued to be manufactured and supported.

The Library Corp. is now making Carl.Solution available under the Unix operating system using Oracle as the underlying database management system. The

The **kernel** is the essential center of a computer operating system, the core that provides basic services for all other parts of the operating system. (www.whatis.com)

functionality available in the system will remain unchanged, and the system will operate identically whether run on Tandem or under Unix. Beta testing of the Unix/Oracle version will begin in the first quarter of 2004. The Library Corp. plans a Linux/Oracle version to be available later in 2004.

Library.Solution was initially developed as an application for the WindowsNT platform, based on the Oracle relational database management system. The server application is written in object-oriented C++.

Since the completion of Library.Solution, The Library Corp. has seen steadily growing sales of the system each year. By late 2003, the number of sites that have contracted to use Library.Solution approached 600. Although many of the libraries that have selected Library.Solution are small, many larger libraries have successfully implemented the system as well.

Library.Solution

Year	Systems
1997	45
1998	102
1999	230
2000	381
2001	413
2002	489

In addition to its flagship ILS Library.Solution, The Library Corp. has continued to develop new products and services.

With its YouSeeMore, TLC was an early innovator in the genre of the enhanced Web OPAC. The initial version of YouSeeMore, which launched in January 2001, includes book jacket images, tables of contents, book reviews, and recommendations.

In January 2003, The Library Corp. launched a service related to the acquisition of library materials called The Online Selection Assistant. This Web-based service provides libraries with tools for conveniently selecting and ordering from participating book publishers and wholesalers, and receiving records that can easily be loaded into the library's automation system.

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Company status

Sirsi Corp. is a privately owned company. The company underwent a major recapitalization in August 1999 through a partnership with Seaport Capital.

Senior management

Patrick C. Sommers, Chief Executive Officer

Don McCall, Chief Operating Officer

Larry D. Smith, Chief Financial Officer

Margaret V. Bell, vice president of human resources

Mike Casale, vice president of client care

John Dickson, vice president of product development

Greg Hathorn, vice president of library products

Marty Keeley, vice president of strategic initiatives and sales

Andrew P. Morrice, vice president of Asia-Pacific operations

Berit Nelson, vice president of product management

Corporate background and history

Sirsi was founded in 1979 by James J. Young, Jacqueline B. Young, and Michael F. Murdock as a small computer consulting company. It developed a Unix-based library automation system for Georgia Institute of Technology in 1981. Sirsi offered it as a turnkey system to other libraries beginning in 1983.

The company has evolved steadily during the last 20 years into one of dominant forces in the industry. The number of libraries using the company's Unicorn Library Management System has grown continuously:

	Unicorn
Year	**Systems**
1983	1
1986	13
1992	144
1994	277
1996	529
1997	625
1999	800
2000	870

The company has gone through many organizational changes in the last four years, transforming itself from a mid-tier library automation company managed by its founders to a more aggressive growth-oriented and professionally

managed corporate organization. In this process, the company has supplemented its growth through steady sales with expansion through corporate acquisitions and with investments by venture capital investors to fuel a more aggressive development of its products and services.

In 1999 the company entered into a relationship with CEA Capital Partners, later known as Seaport Capital, who made significant investments in the company. In return for its investments Seaport gained multiple positions on Sirsi's board of directors. The founders of the company retain partial ownership in the company.

In January 2001 the founders of the company stepped down from the top executive positions. Patrick C. Sommers, with a background in the information services industry and most recently president of Dialog Corp., was appointed president. Company founder Jim Young remains involved in the company's strategic direction through his position on the board, but relinquished day-to-day management of the company.

The company underwent a major transformation to a professionally managed corporate structure. In May 2001 the company took the bold step in acquiring one of its major competitors, Data Research Associates (DRA), for $51.5 million.

Though Sirsi paid a high price for DRA, it gained access to the technologies developed by DRA, a large cadre of experienced personnel, and a massive customer base. At the time of the merger DRA had a customer base of more than 700 sites using its DRA Classic, Inlex/3000, and multiLIS. Thirty-three library sites had implemented Taos, now a next-generation system that didn't make it.

One of the major challenges in the acquisition of DRA by Sirsi lies in enticing the libraries that operate the systems held by DRA to Sirsi's flagship product Unicorn. Although all libraries running DRA Classic, MultiLIS, Inlex/3000, and Taos will migrate to new systems, the process is still underway and the overall success rate can't yet be determined.

Even at the time of the acquisition, many of the libraries running DRA's legacy systems had begun the process of migrating to other systems. Sirsi announced in December 2001 that it would cease development of Taos.

The vast majority of the libraries that had implemented Taos have indeed gone to Unicorn. The flagship Taos site, the University of California at Los Angeles Libraries, however, will be migrating to Endeavor's Voyager system.

Unicorn has proven itself as an automation system that can support a wide range of libraries. Although Unicorn initially appealed to small- to medium-sized libraries, many large libraries have selected Unicorn as well. Today 19 ARL libraries use Unicorn, as do many large consortia.

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Company status

VTLS is a privately owned company.

Senior management

Vinod Chachra, chairman and Chief Executive Officer

Carl Grant, president and Chief Operating Officer

Martha Gettys, vice president sales

George Nichols, vice president finance

Jack Bazuzi, corporate vice president, director of international operations

Ron Passmore, director of marketing

Corporate background and history

VTLS traces its beginnings to the library of Virginia Tech in Blacksburg, Va. The VTLS name now stands for Visionary Technology in Library Solutions. In 1974 the Virginia Tech launched a project to create a circulation and online catalog for its Newman Library. The project became operational in 1975.

Vinod Chachra, vice president for computing and information systems at Virginia Tech, led the development of the system.

By 1980 the VTLS system had evolved into a full ILS. As it evolved, it incorporated many groundbreaking features and grew to be one of the most respected library automation systems of its time.

VTLS, for example, was one of the first systems to implement online authority control, which was added to the system in 1983. An acquisitions module was added to the system in 1989. When the Web emerged in the mid-1990s, VTLS created a Web-based online catalog in December 1995.

The VTLS system showed great potential and was eventually commercialized. On July 1, 1985, VTLS was spun off as a separate company as a subsidiary of the Virginia Tech Intellectual Properties. In this move, VTLS gained the exclusive right to distribute the VTLS software internationally. For the next three years, the company continued to operate from the Virginia Tech library.

In April 1988 the VTLS moved from its offices on the fourth floor of the Virginia Tech Newman Library to a separate facility at 1800 Kraft Drive in Blacksburg. In January 1988 VTLS moved to a new expanded facility, just down the street, at 1701 Kraft Drive, where the company continues to reside.

Today, VTLS has no financial ties to Virginia Tech. In Feb. 22, 1994, VTLS reached an agreement with Virginia Tech Intellectual Properties (VTIP) to buy out the VTIP interest in VTLS for $2.64 million.

VTLS initially developed its software for HP/3000 computers. By 1990, versions of the VTLS software were available for HP/3000, IBM 370 Series, and IBM ES/9000 mainframes. Unix development began in 1992, and the first Unix version of VTLS was implemented at Kirkwood Community College in December 1993.

A PC-based automation system, MicroVTLS, was released in 1986, designed for smaller libraries too small to justify a mainframe-based system. MicroVTLS was written for the MS-DOS operating system and built using the popular dBase III database management system and the Clipper environment for creating database applications.

Libraries in small universities, community colleges, secondary schools, and corporations were typical users of MicroVTLS. Though MicroVTLS did gain many customers, it was not developed beyond the MS-DOS platform and has been discontinued.

In 1999, fewer than 100 libraries were running MicroVTLS, and many of these libraries migrated to the Windows NT version of the full VTLS system. VTLS created Virtua SLE (Small Library Edition), a fully functional version of the software for the small library segment of the market.

VTLS has received ISO 9001 certification as a high-quality company, a goal it achieved in September 1997. ISO 9000 registration involves an organization-wide effort that involves training, revision of procedures, and external independent auditing to provide comprehensive quality assurance in the products it creates and the services it renders.

Like other vendors that developed systems through the 1980s VTLS faced a basic problem of updating its system as the world of technology found disfavor with host-terminal systems and moved to client-server systems with graphical interfaces. Although VTLS did have a Unix version of its system and Unix was gaining ground as a preferred operating system, VTLS chose not to evolve its current system but to create a completely new system.

In 1995, VTLS started developing a new system called Virtua. This new system embodied technologies that were regarded at that time as the most promising. Virtua's design included:

- Relational database management system
- RAID development tools
- Three-tier client-server architecture
- Unicode character support
- Data warehousing
- ATM networking

RAID (redundant array of independent disks) is a way of storing the same data in different places (thus, redundantly) on multiple hard disks. (www.whatis.com)

Though ATM networking was beginning to gain popularity at the time, it quickly lost favor. Ever-faster versions of Ethernet prevailed instead. This component, however, was the only one listed in Virtua's initial design that did not prove to be part of the today's basic model of preferred technologies for application development.

Following the announcement of Virtua, many libraries signed contracts for the system based on its forward-looking design and the early prototypes. The University of Kansas, for example, signed for Virtua in July 1996.

But the development of Virtua took longer than expected and confidence in the product eventually waned. VTLS was not able to deliver the software in the expected time frame. The University of Kansas grew impatient and not able to wait for the software to be completed, cancelled its contract with VTLS, and signed with Endeavor to acquire Voyager in 1998.

As noted above, support for international character scripts through Unicode was a key part of Virtua's design. The implementation of Unicode proved to be a

time-consuming task and was not completed until January 1999. Major improvements in the product have continued. VTLS, for example, was the first ILS vendor to offer support of the Functional Requirements for Bibliographic Records (FRBR) specification.

By July 1999, about 10 Virtua systems had been installed. In 2001 the number increased to almost 60 and to 115 in 2002. Relative to its competitors, Virtua's rate of adoption within the United States has been modest.

In international markets it has shown considerable strength, with installations in more than 35 countries such as Finland, Poland, Spain, Switzerland, Russia, United Arab Emirates, and India. Overall the mix, according to the company, is 40% domestic and 60% international to date.

Virtua sales continue to be sluggish in North America. Most recent sales in North America have been to small and mid-sized libraries. Some libraries that have implemented Virtua include Virginia College of Osteopathic Medicine, Vaughan Public Libraries in Ontario, American Public University System, Hebrew Union College, Blinn College, and Yeshiva University. Scugog Memorial Public will use Virtua's ASP offering. To date, no ARL library has implemented Virtua.

In a surprising move, VTLS has undergone major changes in its executive management. Carl Grant, formerly president of Ex Libris (USA) became the president and Chief Operating Officer of VTLS in March 2003. Company founder Vinod Chachra will continue as the company's chairman and CEO, but Grant will direct the daily operations of the company.

Grant comes to VTLS from Ex Libris, a company that in a short time became a dominant force among the top-tier libraries in North America. Under Grant's leadership, Ex Libris entered the North American market in 1998, capturing a significant number of major library systems and consortia, including 20 ARLs. Grant faces no small challenge in marketing Virtua.

Grant did not come to VTLS alone—many other key personnel from Ex Libris have come along. Other executives that followed Grant from Ex Libris included Martha Gettys, who is now vice president sales, and Ron Passmore, director of marketing. Other new recruits from Ex Libris include Debra Novosad, who joined VTLS as Virtua product manager, and Jan Sheppard, who serves as a sales executive.

With this new management team in place, the company has undergone a major revitalization and has the potential for new growth. A significant part of the energies of VTLS have been focused in providing technologies other than the basic ILS.

Other business interests

In addition to developing products directly related to library automation systems, VTLS has developed business interests in the area of digital imaging and in RFID technologies.

VTLS has formed a separate division of the company, called VTrax, which is dedicated to RFID (radio frequency identification) technologies. VTLS has developed a product called Fastrac, which is a comprehensive set of RFID-based components that integrate RFID capabilities into library operations.

Fastrac includes the RFID tags themselves, which are supplied by Tagsys, one of the major developers and manufacturers of RFID chips. The product line

includes self-check-out stations, staff-operated check-out stations, bookdrops, inventory scanning equipment, and sorting systems. VTLS created software that integrates the RFID functionality into an ILS. Fastrac was designed to work with any ILS—VTLS markets it to both its own customers and those that run automation systems from its competitors.

Another major business interest for VTLS involves digital asset creation and management (DACM). The DACM group offers many services and products related to digital assets and leading technology trends.

At the services level, the company can perform scanning of photographs, slides, maps, and cards, and it can digitize microfilm. VTLS has been involved in many major digital image projects and is a distributor for the Amico (Art Museum Image Consortium) collection of images that can be licensed for educational use.