

THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY



LOCATION:
Siedlce, Poland

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Education and Academia

NOMINATING COMPANY:
Progress Software

ORGANIZATION:

University of Podlasie, Main Library

PROJECT NAME:

BGAP PROLIB

Summary

Founded in 1969, the University of Podlasie Central Library located in Siedlce, Poland, is the region's largest scientific library offering public access. The library's growing organizational needs and the requirement for faster, better and more effective access to resources for students and employees motivated the University to embark on an IT infrastructure modernization project. The project had two primary goals: to ensure that the IT systems used in the library are well secured, while maintaining top functionality, and to implement a library management system across all library resources to enable higher availability to users. Since the project's completion, the academic community and all residents of Siedlce, including those with disabilities, have gained access to a modern system for browsing library resources, and for ordering books and magazines through a computer and the Internet; and employees have gained an effective tool for high speed resource administration.

Introductory Overview

Enabling Access to all Users through Integration and Automation

Founded in 1969, the University of Podlasie Central Library located in Siedlce, Poland, is the region's largest scientific library offering public access. Together with specialized libraries, it forms the University's library and information system. In addition to servicing University faculty and students, library resources are also available for the community of Siedlce and the entire region.

The library's growing organizational needs and the requirement for faster, better and more effective access to resources for students and employees motivated the University to embark on an IT infrastructure modernization project. Back in 1997, the University chose a library management system, PROLIB, from local Polish vendor Max Elektronik. After proposals from various suppliers were compared, the University found that the sole Polish solution fully met the library's requirements. However, the system was installed on just a few machines, and could not grow due to the University's own infrastructure limitations. Space in the building the library was located in was extremely limited making it impossible at the time for expansion. However,



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in 2003 the University made plans to expand the library, enabling it to make plans to deploy a more secure IT network and expand the PROLIB system.

The IT infrastructure modernization project had two primary goals: the first was to ensure that the IT systems used in the library are well secured, while maintaining top functionality. The second goal was to implement the PROLIB library management system across all library resources to enable higher availability to users. The solution would cover library and reader support, complete administrative infrastructure, as well as access to library resources and the Internet from open access desktop workstations and private laptops connected to the local network. The system would manage all library resources including books (more than 350,000 volumes), magazines (570 titles), information publications, databases and special resources (official standards, vinyl records and CDs, VHS videotapes, publications that were banned before 1989 by communist censors, etc.).

Choosing the Best Solution

When deciding on which library management solution to use during the IT infrastructure expansion, several aspects factored into the decision to move forward with PROLIB. Based on Progress Software's relational database engine and Progress Software's WebSpeed development environment, the solution offered functionality comparable to that of other systems as well as the best price-performance ratio of all systems reviewed.

The decision was also partially influenced by the University's previous positive experience with Progress Software. Deanery support software used by the University since 1996 and provided by Kala-Soft (a Progress Software Application Partner) was also based on Progress technology. The system includes modules such as financials and accounting, fixed asset management, social services management, human resources, payroll and supplemental payroll. The University was extremely pleased with the solution and the functionality of the Progress technology.

The fact that PROLIB was proposed by Max Elektronik, a stable Polish company with extensive experience with similar deployments, also had a positive impact on the decision. Max Elektronik is a recognized, long term Polish Progress Software Elite Partner, and is the sole provider of library deployments based on Progress technology. The University was confident that Max Elektronik and Progress would continue to be innovative with their technologies and have the ability to support the library's growing needs and changing requirements.

The partnership between the University and Max Elektronik was not limited to deploying the PROLIB system, but also included consulting on infrastructure component purchases in cases, where such purchases could influence the system performance either directly or indirectly.

A Phased Approach to Implementation

The first phase of the implementation involved managing reader support, complete administrative infrastructure, as well as access to library resources and the Internet from open access desktop workstations and private laptops connected to the local network. This task was accomplished using Cisco network equipment — high performance 3500 and 2900 series switches. Several dedicated subnets with a common backbone were formed. Cisco PIX Firewall 515 is controlling the traffic between the subnets and is responsible for their security.

The next task involved transferring the PROLIB system from its previous location. The new system platform was based on the Solaris operating system and Sun Microsystems servers. This



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choice was made in order to provide the readers with maximum availability of the library and its applications. Databases were placed on a Sun StorEdge 3310 storage system controlled by a Sun Fire V880 server. The PROLIB system, OpacWWW, MultiopacWWW and ProWEB applications, and the library's Z39.50 server run on Sun Fire V480 machines. Promax and Gromadzenie GUI applications are published via a Citrix Meta Frame XP Presentation Server running on an IBM eServer x345. Systems are accessed through PC desktops and Thin Clients.

The library uses the Progress Enterprise Server (v.9.1.D, with a license for 148 users), Progress Client Networking (v.9.1.D, with a license for 98 users), Progress WebSpeed Transaction Server (v.3.1.D, with a license for 50 agents) and Progress AppServer (v.9.1.D, with a license for 15 users). The PROLIB system is based on Progress OpenEdge 10 technology.

An interesting solution was to use a web cache server, which was configured to be the only server accessible from outside the library. This helped reach top security without compromising functionality.

One of the goals of the project was to integrate the library network with that of the University. The library's IT Department, the University's Network Management Center and Max Elektronik were all involved in deployment activities. The scale of this venture was enormous. Students could previously use only one directory terminal in the old library building. The new building, which was opened at the same time as the PROLIB system went live, provides access to 36 workstations in the central library itself. Library employees previously had access to just four desktops for resource and loan management. After the implementation, every employee now has a workstation of his/her own (55 in total). The library network currently contains 163 workstations (and seven servers), 97 of which can be accessed by readers.

Ensuring Access to Readers with Disabilities

Each step of the University's library IT infrastructure modernization project has centered on fulfilling the needs and expectations of all readers. With 250 of the University's 13,500 students having some kind of disability, it was important to the University that the new library serve the entire community, including those with various impairments. As part of the plan, they selected a building design to enable easy access for disabled users. All areas of the library can be directly accessed by people with disabilities including every room, elevator, restroom and every station in the reading room (including computer stations). The University implemented specialized equipment and software aids for the visually impaired, e.g. screen readers (JAWS, Supernova), a Braille embosser — a special printer rendering embossed images for finger reading, text and image magnifiers with image enhancer options (contrast, background, etc.), an electronic book reader and a special ergonomic keyboard with enlarged keys.

The University's effort to provide people with disabilities equality of access to resources has had a significant influence on Siedlce town officials and residents. Accessibility options for wheelchair users (lowered curbs, ramps near stores and public administration buildings, etc.) and the visually impaired (sound signals at crosswalks) have since been established. "The deployment team who first visited the University of Podlasie library in 1997 to install the system and train employees was almost shocked by the 'talking elevators' in the dormitory," says Elżbieta Szczęsny, an executive at Max Elektronik. "These elevators were suited to transport visually impaired students, and used voice announcements. At that time, such accessibility options were extremely rare in the whole of Poland, not only in such a small town as Siedlce, and it served as proof of a special approach taken by the University and its library. This approach seems obvious,



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humane, but is at the same time quite exceptional. It seems obvious, because libraries are service institutions, which exist only for and thanks to their users. However, in countries where free market economy is only just developing, such as in Poland, it is rare that the reader is regarded as the key factor of the library's existence."

Reading Results

After the deployment was complete, it was clear that all targeted goals had been accomplished. The academic community and all residents of Siedlce gained access to a modern system for browsing library resources, and for ordering books and magazines through a computer and the Internet. They are able to check availability of selected items, make a reservation and receive information on their position in the queue. The system automatically reminds borrowers about return deadlines, which can be prolonged via the system as well. Soon, when new functionality is introduced into the system, it will also be possible to notify a reader about status changes (from "reserved" to "ordered", from "ordered" to "awaiting collection at the loans office or reading room"), or to send an email with directory search results. The readers will also be able to register remotely, even before appearing in the library for the first time.

Employees have gained an effective tool for high speed resource administration. Before the IT system was introduced, they used paper files, and orders were made on paper forms. Currently all employees can access the system from their posts. Stockroom personnel no longer have to check the shelves for book availability; all they have to do is use the system. In the past, the fact that copies of a given title could have been placed in different locations in the stockroom, made work more difficult for personnel. This problem doesn't exist any longer. It is also much easier to find library patrons with overdue materials, send them overdue notices and calculate fines. All this is performed automatically by the system.

Finally, University executives gained an effective tool for managing library resources and preparing various statistical reports on readership.

Today, the PROLIB systems has fully automated not only all activities related to gathering, cataloguing and making library resources available to users, but also information search activities and all customer service operations. As a result, librarians no longer have to perform repetitive tasks, gain more time for better user support, and may focus on higher level activities that serve their users. In addition to supporting standard library system tasks (building a library resource database, loan services and reading room support, directory search, system administration), PROLIB also enables special resource cataloguing activities for ancient prints, sheet music, electronic documents, maps, technical and trade documentation, audio materials, films and official standards.

Upon system implementation, the library gained prestige in the academic and librarian community, and recognition of readers who are now serviced better than ever. It's very convenient for residents of a small town such as Siedlce to have access to knowledge through such means. And the town officials can be proud of having such a modern library.

Today, the library is used by employees and students of the University of Podlasie (14,000 people) and neighborhood residents (around 50,000 in total). Internet orders and interlibrary loans make the resources available for every resident of Poland. Most important, the new system was ready for use as soon as it went live. PROLIB interface demands no training or special skills. Basic computer user skills are all that's required.



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Various indicators prove that this deployment was a big success for the library. In 2005, which was the first year with the new system, 201,818 reader visits were recorded. Since 12,511 users were registered at that time, statistically every user visited the library around 16 times. In 2004 the same indicator reached 11.4, and before 2004 it was even lower. A giant leap in library web page visits also occurred. In 2005 it reached 105,484, compared to only 50,183 a year earlier.

“Our partnership with Max Elektronik has been extremely successful,” says the library director, Maria Niesiołowska. “This helped complete the project as planned, and the results for readers and library employees were clearly visible straight away. Everyone waited for the move to the new building, and for the full PROLIB system functionality to be deployed. They were able to see how useful this system is, after using a limited version between 1997 and 2004. Therefore, there was no resistance at all, neither from users nor employees. Everyone waited eagerly for the deployment to be completed. The project had full support of all stakeholders, including the sponsors, University authorities. The deployment was fully successful, helping the readers in accessing the resources and making work easier for library employees. We can say that the only problem we’ve encountered is cataloguing the oldest items (which is still underway) due to a huge number of volumes involved. We also fully appreciate the accessibility options for the disabled.”

Benefits

After implementing the IT infrastructure modernization project, the academic community and all residents of Siedlce gained access to a modern system for browsing library resources, and for ordering books and magazines through a computer and the Internet. They are able to check availability of selected items, make a reservation and receive information on their position in the queue. The system automatically reminds borrowers about return deadlines, which can be prolonged via the system as well.

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image magnifiers with image enhancer options (contrast, background, etc.), an electronic book reader and a special ergonomic keyboard with enlarged keys.

With the new system in place, residents of the small town now have access to a wealth of knowledge that was previously unavailable to them.

This project has clearly had a major impact for readers with disabilities – both within the library and throughout the broader community. The University’s effort to provide people with disabilities equality of access to resources has had a significant influence on Siedlce town officials and residents. Accessibility options for wheelchair users (lowered curbs, ramps near stores and public administration buildings, etc.) and the visually impaired (sound signals at crosswalks) have appeared around town. “The deployment team who first visited the University of Podlasie library in 1997 to install the system and train employees was almost shocked by the ‘talking elevators’ in the dormitory,” says Elbieta Szczepniak, an executive at Max Elektronik. “These elevators were suited to transport visually impaired students, and used voice announcements. At that time, such accessibility options were extremely rare in the whole of Poland, not only in such a small town as Siedlce, and it served as proof of a special approach taken by the University and its library. This approach seems obvious, humane, but is at the same time quite exceptional. It seems obvious, because libraries are service institutions, which exist only for and thanks to their users. However, in countries where free market economy is only just developing, such as in Poland, it is rare that the reader is regarded as the key factor of the library’s existence.”

The Importance of Technology

Advanced technology played a key role in this project. A high speed database with multiple access options allows many people to use the resources at once as well as via the Internet. If a less efficient technology was used, the system would lose its productivity and security. The project also required that all system components be scalable, therefore update or upgrade of any (or all) infrastructure or software items (if necessary) will be relatively free of troubles. The modern technology used to support visually impaired users is highly valuable as well. Thanks to the specialized equipment and software, they can use the library and reading room resources almost as easily as people with no disabilities. This would not be possible if leading edge IT achievements had not been used.

Originality

The exceptional aspect of this project is that it has truly broadened access to knowledge that previously was unavailable to readers and residents of a small, remote town. Each step of the University’s library IT infrastructure modernization project has centered on fulfilling the needs and expectations of all readers. With 250 of the University’s 13,500 students having some kind of disability, it was important to the University that the new library serve the entire community, including those with various impairments. As part of the plan, they selected a building design to enable easy access for disabled users. All areas of the library can be directly accessed by people with disabilities including every room, elevator, restroom and every station in the reading room (including computer stations). The University implemented specialized equipment and software aids for the visually impaired, e.g. screen readers (JAWS, Supernova), a Braille embosser — a special printer rendering embossed images for finger reading, text and image magnifiers with image enhancer options (contrast, background, etc.), an electronic book reader and a special



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ergonomic keyboard with enlarged keys.

This project has also enabled the residents of the small Polish town access to a wealth of knowledge that was previously unavailable to them.

This solution is regarded as a national trailblazer. Top security of applications and systems was achieved by using leading manufacturer equipment, performing suitable configuration and introducing innovative functionalities. One has to keep in mind that top security rarely goes in accord with top availability.

Success

We don't have an example.

Users embraced the new library system immediately. In 2005, which was the first year with the new system, 201,818 reader visits were recorded. Since 12,511 users were registered at that time, statistically every user visited the library around 16 times. In 2004 the same indicator reached 11.4, and before 2004 it was even lower. A giant leap in library web page visits also occurred. In 2005 it reached 105,484, compared to only 50,183 a year earlier.

Also, with the new access options for readers with disabilities, many more patrons with various impairments are now utilizing the library's resources.

Difficulty

We can say that the only problem we've encountered is cataloguing the oldest items (which is still underway) due to a huge number of volumes involved.

There was no resistance at all, neither from users nor employees. Everyone waited eagerly for the deployment to be completed. The project had full support of all stakeholders, including the sponsors and University authorities.