

Smart Libraries Newsletter

News and Analysis in Library Technology Developments



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Smarter Libraries through Technology

The Stewards of Library Technology

By Marshall Breeding

One aspect of the library technology that I find interesting concerns the diverse ownership arrangements of the companies and organizations that provide technology products and services to libraries. The mix includes for-profit commercial companies and non-profit organizations. The commercial companies fall under differing ownership arrangements, such as those that are privately held by the founding owner or family, those controlled by investment firms, publicly traded companies, as well as those with hybrid ownership structures.

The following companies are a few of the major players that illustrate the diversity of organizational structures in the industry.

Auto-Graphics is a for-profit publicly traded company, the primary operating company of Agent Information Software (AIS). Contrary to the norm that public companies tend to be quite large, Auto-Graphics is a mid-sized company. Most of the shares are held by the founding family. Paul R. Cope currently serves as the CEO and is the third generation in the family to lead the company. The company was founded as Cope Typesetting by Ira C. Cope in 1950.

OCLC is a non-profit cooperative, organized as a 501 (c) 3 in the state of Ohio. The EMEA division is a for-profit company, wholly owned by OCLC. Under European business regulations,

business activities like those conducted by OCLC do not qualify as charitable organizations.

Equinox Open Software Initiative has operated under multiple business models. It was initially founded in 2007 as a for-profit company to provide development and support for the open source Evergreen ILS and transitioned to non-profit status in January 2017.

EBSCO Information Services is a for-profit company owned by EBSCO Industries. EBSCO is a longstanding family-owned company, founded by Elton B. Stephens in 1944. The company has grown continuously through business acquisitions and organically through the development and sales of its internally developed products.

SirsiDynix is a consolidated company created through many rounds of mergers and acquisitions. The company is currently owned by Inner City Ventures (ICV), a minority-owned and operated private equity investment firm.

Innovative Interfaces, Inc. was a company with longstanding private ownership until it was acquired by a pair of private equity investment firms, JMI Private Equity and Huntsman Gay Global Capital (now HGGC). Since its acquisition, the company has made business acquisitions including Polaris Library Systems and VTLS.

ByWater Solutions is a privately held company owned by its founders Brendan A. Gallagher and Nathan A. Curulla. The company was launched in 2009 to provide support services for Koha and other open source software.

The Library Corporation (TLC) can be considered the most longstanding founder-owned companies. It was co-founded in 1974 by Annette Harwood Murphy, who continues to lead the

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company as its President and Chief Executive Officer. TLC acquired Carl Corporation in 2000 and Tech Logic Corporation in 2005.

In my three decades of involvement with the library technology industry, I have not been able to observe any strong association between the ownership arrangements and pricing or the quality of the products and services from the organizations involved. The non-profit organizations face the same business challenges as the for-profit companies. They must operate with a sustainable business plan, with revenue exceeding expenses handled differently. OCLC, as the leading non-profit in the industry, participates in the same competitive environment as commercial companies for many of its products. The performance of the investor-owned companies has been mixed. Some investors have exercised constraint and control over their portfolio companies while others have empowered existing management to pursue established and successful business strategies. Founder or family owned companies tend to exhibit more long-term stability, though with

differing levels of product innovation.

All that is not to say that libraries should pay attention to the ownership status of the companies with which they engage for technology products and services. These engagements are long-term partnerships involving products that can strengthen or hinder the library's ability to operate efficiently and achieve its mission for the community it serves. But rather than make judgements regarding the category of the business arrangement, it's more important to evaluate the organization itself, its leadership, and its personnel.

Each company in the industry has its unique character, shaped by the current leadership, financial backers, and its corporate culture and background. As libraries acquire technology products, it is important to take into consideration not just the current snapshot of features and functions, but also to get some insight to its future directions and potential. It's this need to understand as much as possible about business context that most features in this newsletter usually include a section about the background of the organizations involved.

Springshare Acquires QuestionPoint from OCLC

OCLC has divested its QuestionPoint online reference service, selling the product to Springshare, a commercial company offering a variety of products, mostly focusing on public-facing library services delivered through a software-as-a-service platform. This product, officially branded as the QuestionPoint 24/7 Reference Cooperative, has been offered to libraries as a subscription service since 2002.

QuestionPoint provides a cooperative model for virtual reference services. Rather than each library needing to have reference personnel on call at all times, questions are handled through a combination of local personnel and a network of cooperative librarians collectively able to provide continuous coverage. Subscribing libraries place a widget on their public-facing website that enables their users to submit questions through online chat. A staff interface enables librarians to monitor submitted questions, provide local responses, and to access statistical information regarding the service questions, including the quantity of questions, categories, and resolution times. The QuestionPoint service includes a knowledgebase of questions and answers. This knowledgebase provides an important source of relevant information to both library patrons using the service and librarians researching responses.

Springshare offers a similar service, LibAnswers, launched in July 2009. This product includes a variety of features to enable users to submit questions or service requests to the

library through a variety of channels. The product primarily was oriented to enabling library personnel to respond to its own submitted questions. With the acquisition of QuestionPoint, the vision of the product expands to include a cooperative model for responses.

Details of the Acquisition

The agreement for Springshare to acquire the QuestionPoint service from OCLC was announced on May 31, 2019. The financial terms of the transaction were not publicly announced. Under the terms of the agreement, Springshare acquires the personnel, revenue, subscribers, and content associated with the service and assumes ongoing responsibility for providing support and a technology platform.

The agreement excludes the current software that underlies QuestionPoint. Subscribers to QuestionPoint will migrate to Springshare's LibAnswers platform. OCLC will discontinue the QuestionPoint service and will retire its software. Although QuestionPoint and LibAnswers provide similar services, they differ in their specific features in capabilities. Some features in QuestionPoint may not yet be present in LibAnswers, though it also offers some capabilities not available in QuestionPoint. Springshare will enhance its LibAnswers service on its platform to incorporate features in QuestionPoint

not already present. Springshare anticipates completion of this development work in August 2019.

Commenting on the acquisition, Springshare CEO Slaven Zivkovic stated, “We look at this sector as not simply virtual reference but rather in the vein of customer service and user engagement. Today’s library users need more than just reference help online. They have questions of all kinds, and we want to help libraries provide the best customer service and the best and quickest way to answer users’ questions—via chat, email, Facebook, twitter, SMS, or any other relevant channel.”¹

Transition and Timelines

OCLC personnel formerly involved with operating the QuestionPoint service now work for Springshare. Springshare immediately assumes responsibility for the service, though OCLC will continue to respond to support calls related to the QuestionPoint software as long as that platform remains in service. All 22 persons associated with QuestionPoint at OCLC have become employees of Springshare. All are professional librarians, with an ALA-accredited MLS, and provide coverage for the 24/7 QuestionPoint service. This team includes Susan D. Barb, QuestionPoint 24/7 Reference Manager, who coordinates the work of the cooperative librarians.

Springshare reports that they plan to expand the number of personnel by the end of Summer 2019. Mazen Khoury, Springshare Vice President of Business Development, oversees the QuestionPoint migration and integration efforts. Mr. Khoury will lead the newly formed LibAnswers 24/7 Coop service and will preside over the service expansion and growth.

The software platform supporting QuestionPoint was not included in the acquisition, and OCLC will decommission it once the transition to LibAnswers is complete.

Once Springshare developers complete enhancement of the LibAnswers platform, the transfer of Question Point libraries will commence. As libraries migrate, they will replace the QuestionPoint widget on their website with that of LibAnswers. Springshare provides documentation on the JavaScript or other code that needs to be changed. Subscription accounts will be migrated automatically, enabling library staff to access the LibAnswers staff interface. Springshare anticipates migration of all QuestionPoint libraries to be complete by the end of 2019.

Springshare also gains ownership of the QuestionPoint knowledge base. OCLC has provided an export of the questions, answers, and associated metadata in structured XML format. Springshare will import this data into its own LibAnswers knowledgebase.

Timeline:

- May 2019: Agreement Finalized

- June 2019: OCLC QuestionPoint staff join SpringShare
- August 2019: LibAnswers enhancements should be complete
- August 2019: Migration of QuestionPoint libraries to LibAnswers will begin
- December 2019: Migration should be complete; OCLC will discontinue QuestionPoint

QuestionPoint Beginnings and Background

The QuestionPoint service was originally jointly developed by OCLC and the Library of Congress and was launched as a service in 2002. The design of the QuestionPoint service was informed by the Collaborative Digital Reference Service pilot program initiated by the Library of Congress in 2000 along with sixteen other libraries.² The CDRS program was phased out with the launch of QuestionPoint.

Despite earlier involvement by the Library of Congress, OCLC held all the intellectual property associated with the service. At the time of the sale of the service, the Library of Congress did not have an operational role or ownership stake.

In 2004, OCLC expanded QuestionPoint through the acquisition of a similar service that had been developed by the Metropolitan Cooperative Library System. Based in Pasadena, CA, it was known as 24/7 Reference. This service was launched in 2000, initially serving a multi-type consortium of about 40 libraries. About 500 libraries were using the 24/7 Reference service at the time it was merged into OCLC QuestionPoint. Susan McGlamery, project director for 24/7 Reference, joined OCLC with that transition and subsequently served as Senior Product Manager for QuestionPoint. The 24/7 Reference service was based on the technology platform WebLine, which was subsequently acquired by Cisco Systems.

LSSI (Library Systems and Services, Inc.), a commercial firm offering outsourced library operations and other services, offered a virtual reference technology product, which it launched in 1999. This unit of the company was led by Steve Coffman a vocal proponent of virtual reference services that were rapidly gaining interest at that time. LSSI exited this sector and sold its suite of products to tutor.com in June 2003. The LSSI Virtual Reference Toolkit was based on the eGain LiveWeb software platform.

Library Subscription Dynamics

OCLC is divesting QuestionPoint following a decade of declining subscriptions. The service saw its peak number of subscribers in 2008, with fewer numbers each subsequent year, according to figures given in OCLC’s annual reports (see Table 1). At the time of the acquisition, QuestionPoint had 980

library subscribers. Springshare reports that 1,400 libraries subscribe to its LibAnswers service. QuestionPoint subscribers increased dramatically in 2005 when OCLC assumed responsibility for the MCLS 24/7 Reference service.

Despite overall declining subscribers, a number of large organizations continued to provide virtual reference services through QuestionPoint. According to Springshare, some of the major library organizations using QuestionPoint include:

- AskWA: academic and public libraries in Washington State
- AskPA: Pennsylvania public and academic libraries
- Maryland AskUsNow: Maryland academic and public libraries
- AskMN: a service offered to libraries in Minnesota
- Community College League of California
- University of California System
- California State System
- Answerland: Oregon
- AskUs 24/7: a consortium in New York
- CUNY System: Colleges in New York City
- LRCLive: Virginia Community College System
- SCOUNL: Society of College, National and University Libraries in the United Kingdom

Background of Springshare

Springshare was founded in 2007 by Slaven Zivkovic to develop products based on a software-as-a-service platform to help librarians deliver content and services to their users. The company's original product, LibGuides, provided a user-friendly way for librarians to create topical subject pages. LibGuides proved to be quite popular with librarians, which otherwise were managing these resources through basic HTML editors or other tools that were often cumbersome and not well suited for managing complex and ever-changing content.

The company now offers a long slate of products that address different needs within the library website or service offerings. These products, all delivered through an entirely web-based SaaS platform, include:

- LibGuides: a content management system specifically designed for managing references and resources subject and course pages.
- LibGuides/CMS: a content management system designed to service as a libraries entire web presence.
- LibAnswers: a virtual reference platform that enables library users to submit questions and service requests to the library.
- LibCal: a calendar for managing library programs and events.

- LibInsight: a statistics and analytics package.
- LibCRM: a library-specific customer relationship management application for library marketing and outreach.
- LibStaffer: a tool for managing the schedules of library personnel.
- LibWizard: a tool for creating surveys and forms.
- E-Reserves: an electronic reserves and reading list management application.

Springshare's products have now been implemented by over 6,100 libraries in 82 countries. Though especially popular with academic libraries, its products have been implemented by public, school, and special libraries.

The company is privately owned by Zivkovic, who serves as its Chief Executive Officer. The company employed 42 people prior to the acquisition of QuestionPoint.

Zivkovic has a long history in the library technology industry. He previously co-founded Docutek with Philip Kesten in 1995, a company that developed the ERes electronic reserves management system and other technology products. Docutek was acquired by Sirsi Corporation (now SirsiDynix) in January 2005. SirsiDynix offered ERes as part of its product portfolio for a few years but gradually let the product lapse. The latest version (Eres 5.6.1) was released in August 2009.

Perspective

This move represents a consolidation within a specific product genre, that of virtual reference services. Choices have narrowed from two major providers of this service to essentially one. There are some smaller competitors in library-specific reference and messaging technology products and general-purpose tools that can be employed. OCLC's offering was seeing at least some weakening in interest, though still used by many important libraries and library consortia. The QuestionPoint software had not been updated substantially in recent years. The combination of more modern and robust software from Springshare and the cooperative model from OCLC will result in a more compelling product.

It also involves the transfer of a product from the non-profit to the for-profit sector, through these designations are not straightforward given OCLC's position as a competitor to commercial companies in many product categories. Springshare generally has a reputation for moderate pricing, so this move does not necessarily mean that libraries will see higher costs as a result of this instance of product consolidation.

Virtual reference products have seen peaks and valleys in their adoption in libraries. In the early 2000s, there was a strong interest in libraries in delivering online reference

services in reaction to the rise of ecommerce on the web that was increasingly encroaching on the library's role as a provider of information. Several cooperative and commercial products were launched, including those mentioned above. Actual interest by the public in these services was softer than expected and such services proved to be less strategic than anticipated. The products in this category eventually narrowed, with a

relatively small portion of libraries implementing full-featured virtual reference service. Today, interest in this type of product seems to be on the upswing, though more as a component of an interrelated suite of applications that work together to provide a more complete set of services for library users. The focus seems to be more on building patron engagement and improving customer service.

Atairos Invests in ProQuest

The ownership arrangement for ProQuest has undergone a major change. The investment firm Atairos has made a major investment in the company, essentially replacing Goldman Sachs as the minority owner of the company. Cambridge Information Group (CIG) acquired ProQuest in 2007 and continues as its majority investor.

CIG is a management and investment firm owned by the family of Robert N. Snyder. Andrew M. Snyder currently serves the Chief Executive Officer of CIG and as the Chairman of the Board of Directors of ProQuest. In addition to ProQuest, the business portfolio of CIG includes the Sotheby's Institute of Art, the Bach to Rock system of music schools, and The School of the New York Times. CIG currently has investments in another set of diverse companies including Newsela, a news service for K-12 schools, Hammond's candies, and the RailRaiders, a minor league baseball team in Scranton, PA.

Throughout its ownership of ProQuest, CIG has partnered with other investment firms. The initial acquisition of ProQuest that concluded in February 2007 involved the majority ownership by CIG, with ABREY Partners also making a substantial investment with a minority ownership stake. Their combined investment totaled \$222 million. In

November 2013, Goldman Sachs purchased a stake in ProQuest, replacing ABRY Partners as its minority investor.

In this recent transaction, Atairos has made a substantial investment in ProQuest, gaining a minority position. This investment enables ProQuest to purchase most of the shares of the company previously held by Goldman Sachs, which will now hold a remnant stake in the company. The specific investment amounts were not publicly disclosed.

Matti Shem Tov serves as ProQuest's Chief Executive Officer. Shem Tov was formerly CEO of Ex Libris and was named CEO for all of ProQuest in May 2017. Ex Libris was acquired by ProQuest in December 2015. Other former Ex Libris executives holding senior positions for ProQuest include Yair Amsterdam, Chief Operating Officer and Oren Beit-Arie, Chief Strategy Officer.

The ownership structure of ProQuest includes both private family ownership and external investment firms. In the twelve years since it was acquired by CIG, the company has grown through a series of acquisitions including Dialog (2008), RefWorks (Feb 2008), ebrary (Jan 2011), Ebook Library (May 2013), SIPX (April 2015), Coutts Information Services and MyiLibrary (June 2015), and Ex Libris (Dec 2015).

Baker & Taylor Exits Services for Retail Bookstores

In a major shift in the retail bookseller market, Follett-owned Baker & Taylor announced that it will phase out its operations as a wholesale distributor for bookstores. The company will instead strengthen its operations related to providing books and other content to public libraries. This change is consistent with the business focus of its parent company, Follett, on libraries and educational institutions. This move will provide opportunities for large distributors such as Ingram Content

Group, the other major competitor in the retail book distribution sector, as well as for smaller companies.

Follett Corporation acquired Baker & Taylor in April 2016. At the same time, Follett also purchased Bookmasters, a provider of services to the publishing industry and a strategic partner with Baker & Taylor. For more details about those acquisitions, see the June 2016 issue of *Smart Libraries Newsletter*.³

Smarter Libraries Q&A

Each issue Marshall Breeding responds to questions submitted by readers. Have a question that you want answered? Email to Samantha Imburgia, Managing Editor for ALA TechSource, at simburgia@ala.org.

How will blockchain impact libraries?

Blockchain has captured the attention of many organizations as a technology with intriguing possibilities. The basic concept involves a series of records, linked together using digital encryption technology. Records are bound together in blocks, each of which contains a hash of the previous block in the chain, in addition to its own data. This structure takes advantage of public key / private key encryption to enable the data in the blockchain to be openly viewed, but impossible to change. Blockchains can be distributed across diverse storage devices and need not be managed on a centralized server or database. The hashes used to bind each block are created using software that uses a private key to generate a hash, which can be validated with the associated public key. Implementations of blockchains can either be open to the world for viewing, or they can be associated with permission systems available only to authorized users.

Blockchains are best known for their use in cryptocurrencies, especially bitcoin and ethereum. These currencies exist outside of any specific country or government. The values of these currencies have seen wide fluctuations. The ability to make or receive payments anonymously has attracted darker elements. Many organizations' initial encounters with bitcoin, for example, have been through ransomware attacks where the victim must pay the ransom in bitcoin to receive the key to decrypt data files.

The concepts surrounding blockchain have led to innovations in multiple domains besides cryptocurrencies. Businesses anticipate the implementation of smart contracts based on blockchain that automatically execute payments and terms without manual intervention. IBM, for example, has developed the IBM Blockchain Platform that supports a financial platform called Batavia being developed and deployed by a consortium of major banks.⁴ In addition to currencies and financial applications, many other industries see blockchain as a technology with the potential to transform aspects of their work.

Blockchain has also been a topic of interest for libraries. There have been suggestions that blockchain could transform some aspects of the way that libraries carry out their work. The

San Jose State University iSchool, for example, has launched a project to investigate library blockchain possibilities.⁵ One possibility describes a new enhanced metadata ecosystem for libraries:

Building a distributed, permission-less metadata archive has perhaps the most disruptive potential. Because blockchains operate as a type of informational ledger that don't require a centralized gatekeeping organization, they could be used to build a truly distributed metadata system for libraries and related organizations. A blockchain OCLC, if you will. Such a system would be accessible to any organization who wishes, with no additional expenditures. The system would scale cleanly, while still maintaining quality of data through selective reading/output choice based on hash signing.⁶

Some other possibilities listed include:

- An enhanced metadata system
- The ability to manage first sale rights for digital resources
- Badges or micro-credentials for skills training
- Support for community-based collections
- Connecting a network of libraries or universities

Although these examples suggest some theoretical possibilities for using blockchain concepts in libraries, I am not optimistic regarding these becoming a major trend in libraries nor do I see any great advantage in libraries investing significant resources in their pursuit. This may be an unpopular opinion, but it is hard to see adding a new level of complexity to aspects of the library ecosystem to achieve relatively minor gains. When I look at the broad realm of library processes, such as metadata repositories, materials acquisition and payments, provenance of historical or cultural assets, digital rights management, and other proposed use cases, I see cryptographic based open ledgers as more of an impediment than a solution.

Each aspect of the library environment needs to be implementable at a level that will reach a wide range of libraries, especially when it comes to the complexity of technology involved. While there are many libraries with a high level of technical capacity, there are many that struggle with even the basics.

Taking the example of enhanced metadata repositories, it seems to me that the complexity and resources involved in deploying a decentralized permission-less distribution

environment for metadata would introduce practical barriers to access for some as it opens access to others. Reworking existing cataloging workflows to accommodate any new ecosystem of metadata is an undertaking of massive proportions. Devising protocols and technical interfaces to provide access to blockchain-based metadata services might require enhancements to systems, such as integrated library systems, digital repositories, interlibrary loan systems, or other related resource management applications. Contributing metadata records to this new ecosystem would require some technical infrastructure, presumably including some means to create the digital hashes needed to insert new items into the blockchain.

I would also be curious how metadata records from licensed services, such as OCLC and BiblioFile, would make their way into freely available blockchain services. This technical model might provide an alternative to the business model currently in play where a combination of commercial services, national libraries, and other organizations produce metadata, create aggregated repositories, and provide access. But ramping up this new bibliographic ecosystem would likely be a gradual process that would take a long period to gain a critical mass to be a viable service for most libraries. The library bibliographic ecosystem so far has been resistant to changes. The transition from AACR2 to RDA has so far been slow and incremental, and the change from MARC to BIBFRAME remains more in the experimental realm than operational.

The design and deployment of a library metadata ecosystem based on blockchain would be a massive project that would require substantial investment in personnel resources and in technical development. Of all the problems that libraries currently face, the incremental improvement in metadata management that might be possible through a new blockchain

ecosystem don't necessarily rise to the top. Bibliographic services seem to me as largely a solved problem. Barriers in access are narrowing through the increased volume of metadata available in the public domain or through liberal creative commons licenses.

The main concern that I see with blockchain in the library domain relates to the technical complexities involved. On a theoretical level, creating the digital hashes needed to participate in a blockchain seems to represent a low level of technical difficulty. But in the real world, these barriers are substantial. Some of the same technology involved in creating digital hashes for a blockchain, public key / private key encryption, enables libraries to deploy their websites using https rather than sending web resources in the clear using http. Despite prevailing concerns to encrypt library pages to protect patron privacy—one of the central values of the library profession—large portions of libraries have not implemented https encryption. My latest analysis indicates that 34.6 percent of academic libraries and 48.1 percent of public libraries do not employ https for their main library websites. These disappointing statistics make me a bit skeptical when it comes to ideas for new services or systems that depend on blockchain or other complex technologies that might need to be propagated throughout the global library ecosystem.

Blockchain will continue to be one of the technologies that libraries should be aware of, explore, and experiment with. As it gains traction in the business and consumer arena, libraries need to be able to help library patrons understand it as they have with other new technologies. Yet, when it comes to the day-to-day systems that libraries use, I do not anticipate blockchain becoming a major component of our technical infrastructure in the near to medium term future.

Notes

1. Slaven Zivkovic (CEO and Founder, Springshare), email interview by Marshall Breeding, June 2019.
2. Library of Congress, "QuestionPoint Collaborative Reference Service to be Released June 3 by the Library of Congress and OCLC," news release, May 20, 2002, <https://librarytechnology.org/document/9865>.
3. Marshall Breeding, "Follett Corporation Acquires Baker & Taylor," *Smart Libraries Newsletter* 36, no. 6 (June 2016): 3–6.
4. Fabio Keller, "Blockchain-based Batavia Platform Set to Rewire Global Trade Finance," IBM, April 18, 2018,

<https://www.ibm.com/blogs/blockchain/2018/04/blockchain-based-batavia-platform-set-to-rewire-global-trade-finance/>.

5. See Blockchains for the Information Profession: A Project of the SJSU iSchool at <https://ischoolblogs.sjsu.edu/blockchains/>.
6. "Ways to Use Blockchain in Libraries," Blockchains for the Information Profession: A Project of the SJSU iSchool, accessed June 14, 2019, <https://ischoolblogs.sjsu.edu/blockchains/blockchains-applied/applications/>.



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Marshall Breeding's expert coverage of the library automation industry.

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