

RIP MDL information systems. Is this really the beginning of a new era?

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Introduction

After the acquisition of MDL Information Systems by Symyx Technologies in October 2007, I interviewed some of the senior management of Symyx to get their views on the positioning of the new company in the cheminformatics market. Some of the responses were submitted in writing, which left me in danger of assembling a generalized PR statement for readers who really would prefer some firm answers to a set of challenging questions. The best solution seemed to be to lay out the responses just as I received them but to add a more down to earth paragraph of my own at the end. I have shortened the answers to some extent (to retain relevance but remove duplication) but I have left the style as is: this is not a learned article and I want readers to get a true feel of Symyx management-speak.

The Respondents



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Isy Goldwasser (IG, pictured) was named Chief Executive Officer of Symyx Technologies, Inc. in 2007 and has served as President of Symyx since 1998. He became the first employee of Symyx Technologies in 1995 as Vice President, Corporate Development. Isy is a named inventor on 28 U.S., European, German and Canadian patents. He received his B.S. degree in Chemical Engineering from the Massachusetts Institute of Technology and his M.S. degree in Chemical Engineering from Stanford University.

Steven Goldby (SG) became Executive Chairman of Symyx Technologies, Inc. in 2007. Before joining the company in 1998 as Chairman and Chief Executive Officer, Steve served as Chief Executive Officer for more than 10 years at MDL Information Systems, Inc. Earlier, he held various management positions at ALZA Corporation, including President of Alza Pharmaceuticals. He received a B.S. degree in chemistry from the University of North Carolina and a law degree from Georgetown University Law Center.

David Dorsett (DD) is Senior Vice President, Symyx software strategy and architecture.

Questions and answers

WAW: Early in 1997, Elsevier Science acquired MDL Information Systems for \$320 million; on August 10, 2007, Symyx Technologies entered into a definitive agreement to acquire MDL Information Systems for \$123 million. Do you have any comments on these figures?

IG: It is not an apples-to-apples comparison because the market and customer environments have changed in the period between 1997 and 2007. Elsevier acquired MDL at the height of the bioinformatics boom and at a time when IPO activity in the market was high. This is not the case today.

WAW: Your stock price is less than half of what it was a year ago. Why has the market lost confidence since April 2007?

IG: Symyx is undergoing a major transition. A year ago, Symyx was probably assessed principally on the value of its research collaborations business, which included royalty revenue. Now, as those relationships evolve, we are building a truly integrated R&D platform—an *operating* company—built around R&D software, automated workflows and research.

WAW: I want to concentrate on Symyx Software, but first of all, could you describe for me the Symyx mix of Software, Tools (i.e., modular workflow solutions) and Research (formerly “collaboration”)? What is the structure of the company?

IG: While Symyx Software, Tools and Research operate distinctly within the company, the products and services integrate naturally when used by our customers and are part of a complete offering to create industry-leading solutions. We have a single sales force and a unified go-to-market strategy because each of our offerings represents a starting point for a complete, integrated R&D solution configured to our customers’ needs. Symyx Software provides a single experiment design, execution and analysis environment that reduces instrumentation set-up and data-handling overhead. Our platform allows for simple design and execution of experiments, data aggregation, analysis and sharing of information between research groups and across functions within an enterprise. In Symyx Tools, our software-driven workflows integrate and automate laboratory experimentation, increasing testing capacity by 10–100 times while eliminating costly, labor-intensive and rote work. Symyx Tools are powered by Symyx Software and include miniaturized materials synthesis, screening and handling, combined with automated instrument control. Symyx Research delivers research services that leverage our considerable research assets including Symyx scientists, Software and Tools.

WAW: How do the revenues break down now and what do you see as the fastest growing area?

IG: For Q1 through Q3 of 2007 (prior to acquisition of MDL), approximately 47% of revenues are attributed to collaborations which is undergoing a transition to include broader research services, 26% to Symyx tools, 21% to Symyx software and 6% to materials and IP licensing. It’s difficult to call out one area for growth because we see growing market opportunities for integrated R&D solutions and we are focusing our operations to capitalize on those opportunities. That said, we are excited about the prospects for Symyx Software and the MDL products are an important part of that future potential.

WAW: The MDL-Symyx machine has been “right-sized” with the loss of 126 jobs. What was the rationale

behind the blood-letting? Which units took the brunt of the cuts?

IG: The reduction better positioned Symyx to execute on our strategic plan, leverage MDL’s assets, and fuel additional growth for the Software division. We are delivering on our commitment to integrate MDL and streamline the business where appropriate. We believe that Symyx Software remains well positioned to deliver on the product vision of MDL (i.e., Isentris) and Symyx Software. Our integration plans and projects are well underway. In fact, Symyx Software has retained a large software engineering organization relative to other cheminformatics companies: more than 200 software engineers. Our focus in the software business is to leverage the assets of Symyx and MDL to offer customers solutions for electronic laboratory notebooks, laboratory execution and analysis, operational informatics platforms (like chemistry registry and inventory), and data access, analysis and decision support solutions (i.e., ISIS and Isentris).

WAW: MDL has been rolled into your software division, and the Symyx Software business now operates out of MDL’s site in San Ramon. Will you be integrating software from the two companies?

IG: Yes. The software operations are already integrated, and we are aggressively working to integrate the software product lines. The opportunity to realize synergies across the MDL and Symyx product portfolios was a key motivator for the acquisition. With MDL products integrated into Symyx Software, customers will have access to an expanded portfolio of complementary, integrated desktop and enterprise R&D informatics offerings, including software, content, systems and services essential to critical R&D activities in the life sciences, chemicals and energy industries.

A key initiative for us is to integrate the chemistry foundation of MDL (Draw, Cheshire and Direct) with the workflow engine and intellectual property management capabilities of Symyx Vault (the foundation of Symyx electronic lab notebook (ELN) products). Through this initiative, customers benefit by gaining best-of-breed chemistry capabilities, as well as tight integration and consistency between existing MDL-based informatics systems (chemical registry, inventory, etc.) and Symyx products such as our ELN and lab execution and analysis software.

Wendy Warr: Symyx has now acquired three providers of electronic laboratory notebooks (ELNs). What added value will the MDL ELN contribute? Will all three ELNs be rolled into one product?

DD: Symyx had a gradual approach to being a provider of ELN applications: our software for lab data acquisition and project decision support, developed in-house, was not intended to be an ELN but we found our customers pushing

us towards support for unstructured data, and asking us to consider writing an ELN. In addition, we had Symyx customers also using the IntelliChem Process Notebook. As the ELN market started heating up, Symyx bought IntelliChem (in November 2004) and Synthematrix (in February 2005). The current Symyx Notebook offerings now incorporate technologies from both of the companies we acquired. Our third software acquisition was MDL, in October this year. Now we have two ELNs but the direction is a single Symyx Notebook including “best of breed” from both.

WAW: The MDL Notebook is fairly new and faces competition from CambridgeSoft. Will its sales prospects now improve or deteriorate?

DD: The MDL notebook covers only discovery chemistry; the Symyx Notebook also serves users in process chemistry and formulations. The MDL Notebook has not been around for as long as some other ELNs, but it does have customers, and we are committed to supporting those customers using the product.

WAW: By acquiring MDL you have increased your customer base by 1000. How will you capitalize on that?

IG: Symyx now has global reach in sales, marketing and development. We have offices in the United States, Europe and Japan and the ability to provide customer care, training and integration services on a global basis. As customers adopt our products, such as Symyx electronic notebook or Isentris, they can realize significant time savings or productivity gains by working closely with Symyx to engineer and optimize key R&D workflows. Symyx has considerable experience within our own R&D operations and proven expertise in supporting and enhancing R&D for some of the world’s leading companies including The Dow Chemical Company, ExxonMobil and Merck & Company.

WAW: The market for cheminformatics software has changed radically since 1997. Oxford Molecular and Chemical Design have gone; MSI is now Accelrys and has changed with the acquisition of SciTegic; Tripos has been liquidated, but the Discovery Informatics side has been rescued; Daylight is no longer for geeks (who is it for now?); and CambridgeSoft aims to go public on the AIM. OpenEye and ChemAxon now lead the toolbox market. MDL used to be the market leader among the “plumbing companies”. Where do you see the market going?

SG: All of the aforementioned companies have focused on providing niche software solutions (computational chemistry, chemistry development toolkits, visual analytics etc.), and the “changes” in the market that you mention reflect the challenges of running a successful business in those very restricted markets.

R&D increasingly demands highly flexible, integrated, globally distributed, collaborative discovery environments. While these terms may sound at odds with one another, this

exactly defines the situation our customers face. Symyx brings real life laboratory R&D knowledge and a unique ability to partner with customers to facilitate integration of instruments, workflows, scientists, and informatics to support today’s globally distributed R&D environments.

I see growing market opportunities for Symyx’s integrated R&D solutions. The most successful, productive and efficient R&D programs will be those that are streamlined, integrated across all platforms, easily accessible and open for collaboration across the organization. From electronic lab notebooks, analysis software and logistics systems to core module robotic base stations, I believe the future of R&D is in integrated workflows.

DD: Wendy, your summary is fairly accurate. The value proposition has changed. There is not a lot of return on investment today for a chemical registration system. The market has moved toward application solutions that can be more directly measured against benefits. The old cheminformatics companies were not able to move with the market changes. Symyx has a broad strategy. Pharmaceutical discovery chemistry is only one sector; we also cover materials science, biology, formulation, development, and process chemistry.

WAW: What do you have for biologists?

DD: MDL has the Assay Explorer product for biology. Biology was part of the Symyx strategy with respect to ELNs when we considered acquiring MDL. Cheminformatics is a very narrow sector. Symyx has a holistic view of the R&D process. Biology management is due for a shake-up. Biologists want solutions for their processes and vendors are finding that challenging. Assay Explorer is making an impact but there are opportunities in the *in vivo* space too. The best approach is a notebook-type approach.

ChemAxon and CambridgeSoft compete with us in some areas but they are complementary to us in others. We have tried to maintain an open approach. Customers want competitive vendors to collaborate. Symyx is solutions-focused. We have a business relationship with ChemAxon, for example, but we have some unique solutions. Enterprise infrastructure is one of our strengths. MDL’s Isentris is a critical part of our overall strategy. It has a bright future. The core technologies of Isentris have a lot of relevance. Isentris might be packaged differently in future but it is still very important to us. Building registration systems is not a viable business strategy in the long-term. We need to stay in tune with the strategic money.

WAW: For some years, more than 50% of MDL’s revenues came from content rather than software. The Beilstein and patents databases are now the property of Elsevier. What are Symyx’ plans for MDL’s remaining databases?

DD: Do you remember, I used to work in the MDL database-building team, years ago? Content can become an

important component of a business strategy. Databases were one factor in our evaluation when we looked at MDL, but content on its own is not a viable business. Reference data will be related to the solutions in the future; we need to integrate content with the applications. For example, experimental design software can be integrated with materials properties such as viscosity. Reaction databases can be integrated with a synthetic medicinal chemistry ELN. There is a huge opportunity for much deeper integration: plan the experiment, document it and collaborate. These ideas were a factor when we considered the MDL acquisition.

WAW: An announcement has been made about separate Symyx and Elsevier licenses for DiscoveryGate content. What are the implications for the cost of licensing DiscoveryGate, especially for academic library consortia?

DD: Consistent with the divestiture and content offerings retained by Symyx and by Elsevier, we will go to market independently.

WAW: The Available Chemicals Directory (ACD) used to be referred to jokingly as the “Unavailable Chemicals Directory”. An Internet-based version has at last been announced. How will it survive when it has so much competition from free services on the Web?

DD: ACD does have strengths: it is a curated, consolidated source of information. Suppliers [chemical catalog companies] support ACD: they view it as incredibly valuable. There are 725 suppliers in ACD. But ACD *will* change. Increasing accessibility of data in ACD by offering it as a Web service, we believe, increases its value. ACD will also be directly integrated with other Symyx applications in the future. We have additionally had discussions with suppliers about working together to improve the “up-to-dateness” of the data, including Symyx supplying better tools for the suppliers themselves.

WAW: Will you be building your databases in-house or will you be outsourcing?

DD: The size of the operation in-house must reflect the business. Symyx’ skills are in the applications layer and the infrastructure. Database building was an original core competency at MDL; the work was mostly done in-house. This changed over the years: a change in running a productive business. The hallmark of MDL databases was the quality and consistency in the data. This remains a core competency at Symyx but data entry and production need not be done in-house. Abstracting guidelines and quality control must be managed in-house.

WAW: Steve, the enthusiasm for MDL User Group meetings has waned considerably since the glory days when I used to scribble away capturing every nuance of your strategy talks. Will Symyx be holding user meetings on every continent, or do you think that the concept of the user group no longer holds water?

SG: Symyx has had outstanding success with user group meetings, and is committed to continuing the concept in the future. Symyx Symposium 2008 is scheduled for April 30–May 2 in Boston and in 2008, Symyx will host its first meeting in Europe and a meeting in Japan as well. We are actively building an exciting program encompassing presenters from Symyx, who will address our strategy, vision and solutions, as well as customer presentations and case studies.

In addition, Symyx has established a large group of alliance partners, including, for example, Waters, Agilent, Thermo Fisher, InfoChem, TIBCO Spotfire and Elsevier, as well as key technology vendors like Sun, Microsoft and Oracle, focused on delivering integrated systems to our customers. We believe that leveraging this partner ecosystem within a “partners showcase” will offer additional benefits to our symposium participants.

WAW: Steve, earlier this year, Isy Goldwasser succeeded you as Chief Executive Officer of Symyx Technologies and you assumed the position of Executive Chairman. How much do we read into this? Are you going to start to grow other companies, or (surely not?) move toward retirement?

SG: Isy has the leadership qualities Symyx needs at this stage of its development including technological insight and a willingness to embrace change. We have worked together for many years and I know his energy, passion for execution and vision for ongoing growth and evolution of the company. I am happy to support him in his new role and also happy to have more dinners at home and not travel as much as I used to. I will continue to be involved with Symyx as Executive Chairman of the Board and I am also getting involved with new companies as a partner at Venrock.

WAW: Steve, how does it feel to be at the top of MDL again?

SG: I believe the combination of Symyx and MDL offers customers a very powerful force to deliver solutions to today’s R&D challenges. As a combined entity, we are better positioned to meet customer needs on a global basis than either Symyx or MDL was able to do alone. I am enthusiastic about the combination and the output from sharing ideas and vision for integrating R&D.

Comments

In this article, I have allowed Symyx to set out its strategy for the future. Cynics might say that here is a company whose shares were in freefall as the services market declined, but the company was finding some success in the new market for ELNs and it had some cash. It had the good fortune to acquire MDL (it was not the front runner in the

acquisition competition), and with that, 1000 more possible customers for an ELN.

The question now is whether the combined company will be able to integrate disparate technologies and cultures, and capitalize on the new customer base. Symyx has a strong background in process chemistry and formulations, and it seems to recognize the importance of infrastructure, but it has hardly any experience of cheminformatics and computational chemistry in lead discovery and optimization. The key marketing themes that MDL used to tout, failing early and getting drugs to market faster, do not appear in the Symyx statements. On the positive side, Symyx is right in maintaining that operational systems such as chemical registration no longer give competitive edge, and Symyx is wise to emphasize integration. Steve, did say, quite rightly that the future of R&D is in integrated workflows. Readers might care to read my recent article on workflow at <http://www.qsarworld.com>. The secret will lie in integrating the right mix of tools in the right way, and researchers may well assemble flexible workflow systems in-house and avoid monoliths.

Retaining the confidence of MDL's 1000 customers has been a key task: Symyx staff have been on the road constantly since October, visiting MDL customers, and they say that the response has been positive. Other nervous customers are the DiscoveryGate users, especially those in academia. Symyx does have a few academic customers but they are not library consortia. Academic librarians are left wondering if their highly constrained budgets will stretch to two license payments, one to Elsevier and one to Symyx.

I did not bother to ask my interviewees about the response of MDL staff to the acquisition: it has not been at all positive (and by this, I refer to those MDL staffers who did not fall in the night of long knives). Obviously they are

not shouting from the rooftops, and we would not expect them to be happy with the immediate situation, but Symyx seems to have invested little in a management of change exercise. According to Leo Tolstoy in *Anna Karenina* "Happy families are all alike; every unhappy family is unhappy in its own way". The marriage of Elsevier and MDL was not made in heaven; the marriage of Symyx and MDL will be different, but has not begun idyllically.

Naturally, Symyx is responding to its shareholders and seeking to retain, or win over, customers. We must accept that there have been casualties and there may be more. What those with a legacy MDL system, or those planning to acquire a new ELN or discovery infrastructure need to know is whether Symyx' courageous strategy is viable in the long term. I have given the company a shop window in which to set out its ambitious plans. I am thus obliged to be over-cautious in my summary in an attempt to rectify the balance.

I do wish the new alliance well. I followed the fortunes of MDL for nearly 30 years and I shall continue to follow those of Symyx Technologies. MDL was no longer equipped to be at the forefront of the new wave of cheminformatics companies. Will Symyx lead the new wave? The jury is still out right now, but Symyx is confident enough to invite me to the Symyx Symposium in April 2008 in Boston, where the company is convinced I will be impressed by its forward plans and the reaction of customers. A spokesperson challenged my early skepticism as follows: "MDL was betting on the use of digital chemical structures, while Symyx bet on the use of parallel experimentation. Together, we are providing solutions for both, and addressing an even larger issue: the global integration challenge of R&D".