The New Due Diligence

Assessing and Protecting Your
Software Asset Value in Mergers,
Acquisitions and Financing Rounds

Executive Summary

A sea change is taking place in software development. Rather than writing mostly original code, developers today routinely 'assemble' software using pre-existing components. This new development model is a paradigm shift that offers great promise but also introduces new risks. Organizations that recognize and mitigate these risks will realize significant competitive advantages.
For software and financial executives who get involved in due diligence for technology M&A activities or funding events, the first step is to understand and embrace the changes that are happening in software development. They also need to explore new approaches to assessing and protecting their valuable software intellectual property assets.

Introduction

Global merger and acquisition (M&A) activity is at an all-time high, and shows no signs of slowing in terms of the number, size and complexity of the deals involved.[1] This is particularly true in the technology sector, where M&A exit strategies have become more attractive than initial public offerings (IPO's). Funding events are also at a four year high, with 2,939 deals worth $21.7 billion done in 2005.[2] But across the board, whether they are pursuing an M&A deal, preparing for an IPO or seeking a round of venture capital, more and more of the value of a technology enterprise resides in its intellectual property (IP), specifically its software.

Software, the code essential to so many companies' products, is increasing as a value component of a company's IP. For managers of technology companies, financial and legal professionals involved in their sale, purchase or merger, and for venture capitalists funding new technology ventures, being able to accurately assess the value of software IP is critical to success.

Establishing the value of software assets has never been easy, but recent trends in software development have made the task even more complex and difficult. One trend having a major impact is the widespread adoption of a new development model known as 'software assembly'. In software assembly, developers repurpose code

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1 2.39 trillion globally by December 2005, up 24% compared to 2004. Deals in the $100-$500 million range had the third highest percentage increase (14.9%) compared to far larger deals (greater than $1 billion). Wall Street Journal, "Mergers Snapshot", December 28, 2005, source Dealogic.

2 Source: PricewaterhouseCoopers/Thomson Venture Economics/National Venture Capital Association sponsored MoneyTree Survey, "Venture Capital Investing Steady at $21.7 Billion in 2005, Holding on to 2004's Gain", http://www.pwcmoneytree.com/exhibits/05Q4Highlights.pdf

from internal and external sources, creating a finished product of mixed origins. This new style of development was enabled by the Internet's global connectivity, and driven by ever increasing market pressures to reduce development time and costs. Two parallel and related trends have been the increasing use of open source software and the dramatic rise of outsourcing.

The benefits of an assembly development approach are clear: accelerated software development, reduced costs and often improved quality.[3] In short, assembly development offers the enterprise far greater business agility. But it also can introduce new risks to a company's software IP. The origins of outsourced software can be murky, and just because open source is "free" does not mean it is without licensing obligations and requirements.

By combining external components with their proprietary code, companies create a complex mix of intellectual property, or 'mixed IP'. The software running a typical cell phone, for example, includes dozens of embedded components comprising a mix of open source and proprietary code. In these mixed-IP environments, the number of software components – and their respective licenses – that need to be understood and tracked can quickly become overwhelming. Further, those licenses often conflict with one another. If left unresolved, these conflicts can result in software assets with

significant legal problems that can easily become serious business problems.

The due diligence associated with technology M&A or rounds of funding has always required the assessment of any software license obligations. In this new world of software assembly, potential buyers, sellers, investors and those facilitating the deals must pay closer attention to software license compliance. Those involved in these transactions must dig deeper to establish the pedigree of software IP and to identify license obligations, including any relevant open source code licenses, and document compliance.

Fortunately, technology exists for the specific purpose of assessing software license compliance. Software compliance management systems greatly reduce assessment time and cost, while increasing its comprehensiveness and accuracy. Black Duck Software pioneered the concept of automated software compliance management. As the industry leader, Black Duck continues to set the standard or quality and performance in this important new area of technology.

Software compliance management systems help organizations prevent compliance-related legal and business problems. They also help buyers and sellers of software assets avoid having deals fall through or be delayed because of the uncertainty about exactly what is 'under the hood' of a software

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3 Source: Pedersen, Palle, "EOF – Open-Source Use Accelerates Software Development | Linux Journal," Industry News, October 31, 2005, downloaded 1/06/06 from: http://www.linuxjournal.com.

asset and whether an asset's components are in full compliance with all relevant licensing requirements.

The goal of this paper is to make all parties involved in technology M&A or funding events aware of software compliance management solutions, and how they can help organizations achieve their business goals.

Software Compliance Assessment is in Your Future

Merger-and-acquisition volume worldwide increased 38% in 2005 over 2004, for a total of $2.9 trillion. At $1.1 trillion, M&A volume in the U.S. and Europe reached its highest level in each region since 2000. Asian-Pacific M&A volume hit a record $474.3 billion up 46%.[4] First-time venture funding volume reached 901 deals in North America in 2005, its highest level in 4 years.[5]

M&A growth is expected to continue in the number, size and complexity of deals. This is particularly true in the technology sector. Jefferies Broadview's Global Mergers and Acquisitions Database reported 952 software mergers and acquisitions as of December 2005, with a total value of $48.7 billion, topping the 844 deals worth $40.8 billion in 2004.[6]

Investors in software companies, M&A professionals, and technology executives are likely to face a formal due diligence process more than once in the life of their companies. No matter what exit strategy plans are on the drawing board, at some point they all will require a formal assessment of the software to make a sound business decision.

Assessing and Valuing Software IP

Software assets have traditionally been considered an intangible asset for accounting purposes. In a study done of 3,500 companies in 1978, 95% of their value was book value. But business valuation has shifted dramatically toward intangible assets, including intellectual property. By 1998, the typical book value component of market value had decreased to 28%.[7]

Accounting and financial reporting procedures also are evolving to reflect the increased importance of assessing and valuing the intangible assets of technology companies. The Financial Standards Accounting Board has issued two clarifications (FASB 141, 142) over the last couple of years specifically addressing how to value and track intangible assets more accurately and closely.[8]

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4   Source: Draper, Heather, "Global M&A volume in 2005 climbed by 38% to $2.9 trillion," Wall Street Journal, December 24, 2005.

5   Op.Cit, PricewaterhouseCoopers/Thomson Venture Economics/National Venture Capital Association sponsored MoneyTree Survey

6   Source: Dignan, Larry, "Surviving the software vendor shuffle," Baseline Magazine, December 5, 2005. Downloaded 12/27, 2005 from http://www.baselinemag.com/print_article2/0,1217,a=166752,00.asp.

7   Source: "What's in a Name? The Value of Brands", CBIZ Valuation Quarterly, Winter 2004

8   Source: "What's in a Name? The Value of Brands", CBIZ Valuation Quarterly, Winter 2004

Industry veterans know the value of software components is increasing as a percentage of the overall value of technology companies' IP. It follows that the percentage of software IP value as a component of the total value of M&A deals is also increasing. With the advent of the information age, intellectual property rights, including software licenses, emerged as significant assets.

Partly as a consequence, more people were added to due diligence teams in order to ensure rights would not be lost or changed in any transfer. Still, due diligence teams struggle to make intellectual property due diligence sufficiently robust (e.g., adding reviews for open source software, and the obligations and requirements incurred under open source software licenses). [9]

Software Pedigree and Open Source Software

The component assembly model has permanently altered the software development landscape. Developers now spend a fair amount of their time finding and pulling together pieces of pre-existing software from a wide variety of internal and external sources. Their skill with Google and SourceForge is nearly as important as their knowledge of software architecture and implementation. This phenomenon

"Underestimated Impact"

A prominent attorney specializing in technology M&A notes current open source licensing exposure might be underestimated.

" It is not uncommon during due diligence to find correspondence from open source licensors regarding the alleged improper use of open source code. While I'm not aware of any of these resulting in litigation, they do impact licensee behavior."

– Sean Belanga,
GTC Law Group LLP

is only exacerbated by increasingly distributed and outsourced development.

Open source software is the preeminent example of existing software repurposed by developers. Incorporation of open source can be done within an enterprise development organization, typically originating via the Internet, or, it can be received within a deliverable from outsourced developers. "Open source software usage has become quite pervasive and its use is growing rapidly."[10]

Ironically, precisely because open source is usually available free of charge, many companies have not used the same rigorous means to approve its use

9 Source: Towle, Holly K. (Preston, Gates, Ellis LLP), September 26, 2005, downloaded from http://www.prestongates.com on December 21, 2005. http://www.prestongates.com/publications/pubDetail.asp?id=652.

10 Westermeier, J.T., DLA Piper, Rudnick, Gray, Cary, "United States: Managing Open Source Software Risks in M&A Corporate Transactions," February 8, 2005, downloaded 12/21/2005 from http://www.mondaq.com. http://www.mondaq.com/i_article.asp_Q_articleid_E_30861. Article summarizes open source, rights and obligations and what they mean in an M&A.

and to track license obligations that would have been used on purchased software. Along with open source benefits comes the need to address these licensing obligations. Failure to address open source licensing obligations exposes a company to the risk of distributing non-compliant code to customers, and potential litigation.

But open source licensing responsibilities and obligations can present internal management challenges, most notably:

- Identifying and tracking open source usage, with an ever increasing collection (and associated licenses) of available open source
- A wide variation in licensing language and arrangements
- Managing large, distributed developers' use of open source in a standard, compliant fashion – how to know who is using what, and whether in compliance with open source obligations?

"Open source software is software for which the source code is freely and publicly available, though the specific licensing agreements vary as to what one is allowed to do with the code… the OSI has approved at least 54 open source licenses that are each posted at the OSI website, http://www.opensource.org. The number of approved licenses is continually growing and new versions are being published as new issues are identified.

The list of approved licenses can be divided broadly into two groups – the "academic" or Berkeley Software Distribution (BSD) style and the reciprocal style, such as the GPL and many others. Reciprocal licenses apply restrictions on the redistribution of the open source program so that the code will always remain open."[11]

This is not to be alarmist about pursuing the benefits of open source; it is here to stay because the benefits outweigh the risks.[12] For development managers, the challenge is to educate their employees, and apply best practices for tracking software pedigree. However, more significant to the focus of this paper is the impact mixed-IP has on the due diligence surrounding M&A and funding activity.

For those involved in M&A activity or funding, their due diligence must thoroughly and confidently establish software IP pedigree. New due diligence requirements must address the increasing numbers and types of licenses, and more varied license conditions. Due diligence teams must understand potential obligations that affect the value of a software asset, and in a very real sense, its future viability.

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11 Other terms for distinguishing open source licenses are "academic" (or BSD-style) and "reciprocal" licenses (such as the GPL and others). Ibid.

12 "Intellectual property infringement lawsuits can be filed any day accusing open source software, and threatening to enjoin its use. People also die in car crashes, but that doesn't mean we don't drive to work. The industry, tacitly, has decided this is a manageable risk. The facts have not proved this decision wrong." Meeker, Heather J. "Open Source: Chicken Little and Age-Appropriate Explanations," LinuxInsider, May 4, 2005, downloaded from http://www.linuxinsider.com on December 21, 2005. http://www.linuxinsider.com/story/42752.html

Manual Code Assessment – A Futile Exercise

Manually assessing software for impaired or "dirty" assets is a time-consuming and error-prone process. As software IP obligations, notably open source licenses, have increased in complexity and number, compliance assessment as part of due diligence is posing serious challenges. No individual or even team of engineers can expect to recognize all open source, so manual methods are inevitably inaccurate and incomplete. In addition, as more individuals are brought in to assess code, the more cost, variables and disruption are inserted into to what is typically a highly confidential and fast-paced set of negotiations.

There is also the question of confidentiality and protection of critical IP. The traditional course of action is the use of outside consultants. But this too is costly and time-consuming. The use of outside consultants also raises issues of access to privileged information.

The limitations of manual assessments are excessive – high cost in labor and delay (weeks or months). There is also the challenge to be accurate with larger, more complex bodies of code. This is especially true if the code has not been rigorously protected during development. Many organizations now educate their programmers about what is the appropriate use of external code. Still, it is extremely difficult to police – even with the best of intentions.

"Didn't Think it was an Issue"

Engineers cannot be expected to be aware of all the implications of open source licenses.

" We were negotiating the purchase of a technology company in Europe. The development team was well respected and highly regarded in the open source community. Manual due diligence was done on the software, highlighting open source code, and these license obligations were appropriately reconciled. Well after the deal was successfully concluded Black Duck Software was run on the code and portions of open source used in another, different project were uncovered. The assessment team simply did not think this code was relevant to the asset purchase decision then under discussion."

– Lawrence Rosen, Rosenlaw & Einschlag, technology law offices (www.rosenlaw.com) Stanford University School of Law, Lecturer in Law, Author of *Open Source Licensing: Software Freedom and Intellectual Property Law* (Prentice Hall 2004)

Software Compliance Assessment – A Better Way

Software compliance management technology is now available that greatly reduces the time and cost of software compliance assessment. Software compliance management systems can

"If You Think…"

The discipline of managing software development includes education of software developers, e.g. on the use of approved code libraries, and the regular scanning of code for security loopholes or weaknesses. Open source has proved particularly difficult to track precisely because of its ubiquity and ease of acquisition – essentially anyone with an Internet connection can download relevant code. Even organizations which practice rigorous review and development discipline can be surprised. After running Black Duck Software scanning technology, a CEO of a transactional software company with international customers advises:

"If you think you have control over the content of your code, and identified all the open source and concurrent license obligations – think again."

scan thousands of lines of code in minutes, if not seconds; and it is consistent time after time. No manual process – no matter how big the team, can compare in time, efficiency or cost.

Such technology can greatly increase assessment accuracy and consistency, specifically in identifying the open source licenses involved. Using advanced

open source detection capabilities, these systems can detect even small snippets of code that the developer may have altered slightly to cover his tracks. In addition to source code analysis, the leading assessment technology analyzes binary files of all types, including libraries, image files, Java archives and class files, as well as distribution, compression and executable formats. The system employs a combination of pattern recognition, statistical analysis, and 'fuzzy' matching technology to provide a level of detection superior to subjective manual assessments. It does not rely on a visual, and by definition, singular interpretation of code.

Additionally, the currency and comprehensiveness of the automated approach is directly related to the scope and quality of the open source library and licenses covered by the system. Black Duck's KnowledgeBase encompasses more than 1800 sources of open source code which are continually monitored for new projects and the most up-to-date open source licenses. Black Duck regularly and automatically updates its KnowledgeBase, guaranteeing that code assessment is as thorough and current as possible. Again, no manual process can keep up with the more than 500 open source licenses currently in use, and growing daily.[13]

The more advanced systems provide a detailed, holistic analysis of license obligations and highlight conflicts between identified components

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13 "License Proliferation", Lawrence Rosen, Copyright 2005, licensed under the Academic Free License version 3.0.

and declared licenses. A software compliance management system can stack up all the governing licenses, and assess them as a whole, and flag any internal conflicts. Such capability gives the user 'one leg up' on the next steps toward compliance. The user is armed with the information to proactively resolve IP issues and establish audit trails. Risks of missed product delivery dates and costly charges to correct last-minute problems stemming from software licensing issues are greatly reduced. And one can respond more quickly, and more authoritatively, to compliance requests.

Strong analysis and reporting tools provide audit trails for precisely what open source code was found, when, and what actions were taken. Such reports, especially if run regularly, establish a solid paper trial to prove compliance, and contribute to other business obligations such as financial reporting. With secure access, these reports can act as the single (accurate) repository of information for up-to-date license information through out an enterprise. Within a due diligence process, these reports can be included as part of the warrants, or other legal documentation accompanying any funding or M&A transaction.

The New Due Diligence – Benefits to M&A and Financing

In any M&A or funding deal, uncertainty generates risk and threatens successful closure. Indeed, a key goal of due diligence is to adequately uncover, define and remediate risk as quickly as possible. With the increasing value of software IP, buyers, sellers, investors and M&A deal facilitators must know more than ever about the software assets in play. This means paying greater attention to the software pedigree and governance.

As outlined above, the use of software compliance management technology increases the understanding of software pedigree by orders of magnitude. Such analysis provides a higher degree of confidence, and reduced risk, for all the parties involved. No technology M&A involving software assets should take place without the use of this technology.

During an M&A or funding evaluation, using assessment technology can help manage the access to confidential IP and speed up the negotiation process. For organizations using software compliance management technology, interested parties can be provided detailed IP audit trails. And the technology provides a level of accuracy, and confidence, not previously possible without time-consuming and expensive manual methods.

Individuals and teams already engaged in M&A or funding discussions and not presently using software compliance technology can conduct fast and effective assessments via a hosted service. Hosted assessment provides a secure 'no friction'

solution without the source code ever leaving the company's premises. This lets companies confidentially analyze software projects to discover open source software and assure that licensing obligations are met. Companies can quickly and easily address intellectual property compliance requirements stemming from a range of business situations, reducing uncertainty and expediting closure. In addition, the hosted solution enables compliance assessments to be completed on demand, 24/7 from any location worldwide.

Buyers of software intellectual property want to avoid (or at least minimize) surprises after closing a deal, as well as limit post-close exposure to liability or remediation costs. More complete compliance assessments and visibility reduces uncertainty, makes clearer the assumption of obligations going forward. The more educated acquisition or investment policy would require software compliance assessment for every deal, resulting in higher quality transactions and more successful M&A deals.

Facilitators in an M&A transaction (lawyers, investment bankers) need to protect deal credibility, and potentially increase incentive fees by introducing faster, more complete assessment technology. Therefore it is in these individuals' best interests to suggest that their clients use these systems to conduct regular code assessments.

If you are a seller of software IP in an M&A transaction, sooner or later you will be asked for a formal compliance assessment of your software IP. Why wait to get this done? Proactive use of software compliance management systems during development may limit the amount of, or even need, for high escrow accounts (hold-backs) often established as a hedge when there are uncertainties about software pedigree. In fact, the willingness to employ software compliance management, and when appropriate, share results, lends credibility to executive claims of corporate compliance.

No matter what the exit strategy, at some stage a formal assessment of your software IP will be required. If companies employ software compliance management systems early in the development cycle, the integrity of the software IP remains unassailable and its value enhanced. Whenever the funding opportunity, M&A or IPO occurs, all parties are ready to efficiently conclude a successful deal with confidence.

Conclusion

It is essential that all parties involved in M&A and investment activity – buyers, sellers and deal makers – be aware of the benefits of software compliance management systems. Greater confidence in software pedigree and understanding of license obligations reduces uncertainty and risk,

and helps achieve successful funding rounds and M&A deals.

It is easy to see how software compliance management should be introduced as early as possible in the life cycle of a technology company. Ideally, this technology should be implemented well in advance of any M&A or funding event. By doing so, executives and companies will be in a stronger negotiating position when the time comes to do a deal.

If an M&A transaction or funding event is upon you, consider a hosted service for compliance assessment. By all means, insist that software compliance management technology is used by those who conduct the software due diligence on your behalf.

Contact

To learn more about how Black Duck's transactIP service can help your company validate the contents of its software code quickly, easily and cost-effectively, please contact sales@blackducksoftware.com or call +1 781-891-5100 x450. Additional information is available at Black Duck's website at: www.blackducksoftware.com

About Black Duck Software

Black Duck Software is the leading provider of strategy, products and services for automating the management, governance and secure use of free and open source software, at enterprise scale, in a multi-source development process. Black Duck enables companies to shorten time-to-solution and reduce development costs while mitigating the management, compliance and security challenges associated with free and open source software. Black Duck Software powers Koders.com, the industry's leading code search engine for open source, Ohloh.net, the largest community for and free public directory of open source, and The Olliance Group, the leading open source business and strategy consulting firm.

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