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Know Before You Grow: Proprietary Transportation Systems and Open Source Software Risk

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We live in the era of gig economies and e-commerce, where supply chains are evolving before our eyes due in part to the speed of technological innovation. All transportation and logistics services are under pressure to deliver highly analytic data-rich solutions in addition to freight. The challenge to gain advantage through information technology systems, let alone to remain competitive, is often met through “homegrown” proprietary IT solutions in addition to those many options available on the market.

Developing proprietary IT systems, whether for core operating systems or customer-facing applications, can be a costly endeavor and therefore the speed and cost of development tend to be areas of concern. Most IT systems today contain what is known as open source software because using open source is generally much more cost-effective than developing entirely from scratch. While using open source software is advantageous in some ways, it also carries certain risks that must be navigated in order to achieve and protect the full potential of a homegrown system.

What is open source software?

Open source software is free software available in the form of source code but subject to license restrictions. The nature of open source permits the development team the right to modify and use the source code in a commercial setting without any license compliance issues. However, the distribution and sale of software developed with open source is likely restricted under the applicable open source license. Some open source licenses, for example, require that any software produced using such source code must be distributed under the same license it was received under. The result is that use of open source software can cause homegrown transportation and logistics systems to lose their competitive and proprietary character. This effect can significantly diminish the value creation otherwise anticipated at the outset of the development project.

What types of open source license restrictions exist?

Many open source licenses are designed to promote development and use without restriction, provided that minimal requirements are observed, such as maintaining the copyright notice. Other licenses include unique and sometimes cumbersome restrictions, such as the need to maintain open source software code in different files within the system architecture. The most restrictive, and dangerous, of open source licenses are known as “copy-left” licenses. These license terms require that any distributions of software developed utilizing open source code must be entirely licensed under the same copy-left license. In other words, copy-left licenses can cause what was intended to be a cutting-edge proprietary system to require publication of all source code including the

homegrown code (destroying the confidential nature of the system) and distribution for free under the same license (destroying the proprietary nature of the system).

How can open source software harm enterprise value?

The transportation and logistics space is a hot market for mergers and acquisitions, and proprietary technology systems are often touted as essential to enterprise value. Using certain open source licenses could be an obstacle if a potential buyer is relying on the ability to exclusively use or monetize the target company's technology. Buyers often require representations and warranties that no open source software has been incorporated into any proprietary systems or products in any way that would obligate the seller to disclose the source code. The eleventh hour of negotiations is not the time to learn that poor housekeeping during development of transportation systems threatens to diminish the return or even kill the deal.

Can transportation solutions created using open source software be proprietary?

The key to avoiding surprises when developing proprietary transportation and logistics systems with open source software is to identify, understand and comply with the license requirements of each open source component. Specifically, the safe use of open source elements when building proprietary solutions requires that development teams (1) are aware of each and every instance where the source code is used within the solution and (2) examine the license implications for the open source software and its impact on the nature and use of the entire application. These may sound like simple steps; however, knowledgeable management of open source libraries and license compliance is easily overlooked during the development process, and the consequences can be serious.

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