The Blockchain Platform Strategies To Enter Open Source Market Considering Characteristics of Open Source

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ABSTRACT Beyond the software market, the use and importance of open source software in the global marketplace is increasing day by day. One of the biggest characteristics of open source software is that the source code of the software must be made public and licensed accordingly, and open source licenses must also be applied to the open source derivative works. To do this, the Linux Working Group released SPDX documents, a document that standardizes metadata about software packages. However, on the platforms that currently use SPDX for distribution or use of open source, SPDX of different specification and different contents is owned by each distribution platform, even though it is same open source. In this study, we propose a platforms using open source diffusion model in which open source distribution platforms can own SPDX, which they refer to rather than collecting open source and open source license information independently.

Keywords: Open Source Market, Software Data Package Exchange Specification, Open Source Blockchain, Software Metadata

1. INTRODUCTION

Beyond the software market, the use and importance of open source software in the global marketplace is increasing day by day. In addition, open source must disclose the source code of the software and the licenses that regulate it. This license also must be applied to the open source secondary work. However, it is very difficult to identify and arrange more than 2,000 pieces of software license information and software package information. Therefore, The Linux Working Group has released SPDX documents, a document that standardizes the metadata of software packages including open source licensing[1].

As a result, companies based on open source licensing information have designated SPDX as a standard and utilize SPDX to collect open source metadata and license information. As an foreign company, there are Wind River, Black Duck, and feather hub. However, even though they have the same open source, each company owns SPDX documents of different content because they collect their own metadata. Despite having the same open source for each company and platform, having another SPDX document is a big problem for the company, SPDX document writers, and software developers.

2. Strategies To Enter Open Source Market Considering

It is a platform model in which companies that collect existing open source licenses provide standardized, open source licensing information that they can reference rather than collecting their own open source and open source license information.Companies that collect existing open source licenses often have different SPDX documents for each company, and SPDX documents have not been modified. In order to solve this problem, this model introduces a block chain[2] (Fabric), so that someone creates and registers the SPDX document in the ledger, so that all the members connected to the global ledger network without a centralized server or platform can automatically synchronize. As a result, existing synchronization problems can be solved. Based on the block chain, new documents can be automatically synchronized to all members and form a standardized open source licensing information distribution platform that can be consulted by companies that collect open source licenses. As a result, SPDX document writers can...
register and modify their own SPDX documents only once, without modifying or registering them on each company's SPDX platform.

![Figure 1 Business Model of SPDX BlockChain Platform](image)

Figure 1 shows the business relationship of the open source distribution model in this study. In the figure, the "SPDX Document Writer" means person or system which creates the SPDX document, and the "SPDX Collector" is which collecting the SPDX and deriving the results about lookup and processing. The "SPDX Collector" can be divided into "OSS Repository", "OSS Compliancer", and "Developer using OSS" depending on the use of SPDX.

3. Conclusion

Through this study, we derived market entry strategy and business model considering characteristics of open source market. The market entry strategy is to introduce a block chain to form a standardized open source licensing information distribution platform that can be referenced by companies that automatically synchronize new documents and collect open source licenses to their members. Based on this, business stakeholders were extracted by using the business model constructed through the class diagram. The results of this study are expected to be a starting point for the entry into the SPDX share market and the specific requirements of the block chain.

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