

빅데이터 시장 분석을 위한 에코시스템 설계

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Design of Ecosystems to Analyze Big Data Market

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● 요약 ●

Big Data services is composed of Big Data user, Big Data service provider, and Big Data application provider. And it is possible to extend the service to interplay-reciprocal actions among three subjects such as providing, being provided, connecting, being connected, and so on. In this paper, we propose an ecosystems of Big Data and a framework of its service.

키워드: Big Data(빅데이터), Ecosystems(생태계), Framework(프레임워크), Big Data Market(빅데이터 시장)

I. Introduction

Just like the cloud computing market, we should take notice of Big Data ecosystems for clear understanding on its market. The main subjects of Big Data ecosystems are user, service provider, and application provider of Big Data. First of all, Big Data services should be extended to interplay-reciprocal actions among these subjects such as providing, being provided, connecting, being connected, and so on. By use of the extension, we could understand the flow of strategies and markets for subjects in Big Data ecosystems.

II. Ecosystems of Big Data

Big Data ecosystems are composed of Big Data user, Big Data service provider, and Big Data application provider (Figure 1). Big Data user means a subject who purchases and consume Big Data services. Big Data service provider means a subject who provides Big Data services to a Big Data user. And Big Data application provider means a subject who connect Big Data service providers and Big Data users. Big Data services are provided by Big Data service providers through various hardwares, softwares, and platforms. The value and practicability of these services are circulated by use of their applications. This structure of Fig. 1 could be utilized as a framework for Big Data service. In order to efficiently understand markets around Big Data, Big Data providers should be analyzed more concretely.

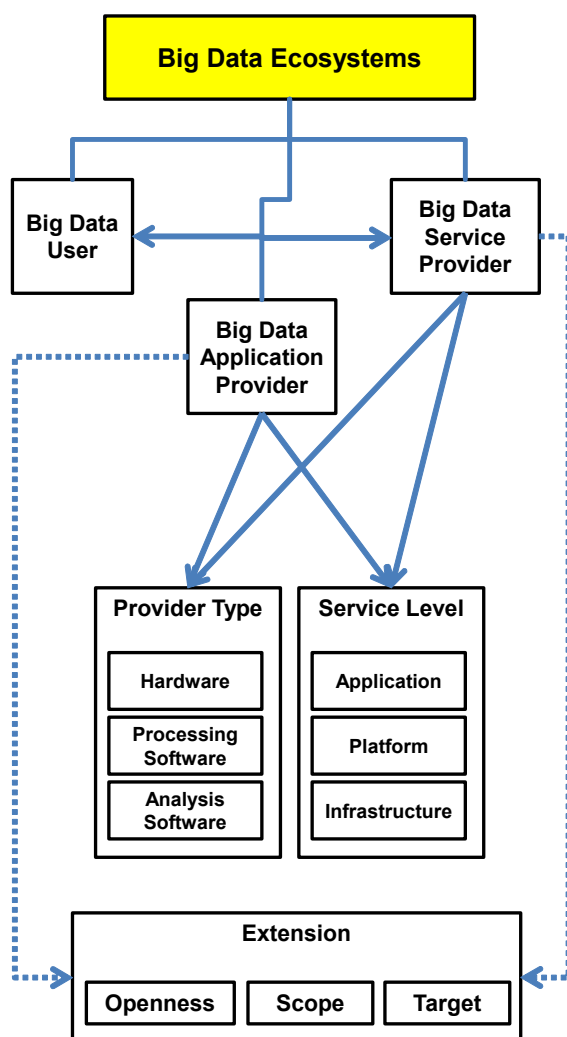


Fig. 1. The Structure of Big Data Ecosystems

III. Framework of Big Data Service

A framework of Big Data Service could be implemented by use of provider types and service levels. Provider type is composed of hardware, processing software, and analysis software. And service level comprises application, platform, infrastructure. The provider types and service levels could be

utilized so as to analyze strategies of Big Data providers. The two elements is a kind of axis for the framework of Big Data service and is a kind of key in order to analyze concrete characteristics of Big Data markets.

But, various political issues related to Big Data exist such as privacy, data ownership, national regulations, and so on. The framework of Big Data service could have three components such as openness, scope, and target. In case of openness, data that providers or users provide could be defined as a concept of openness, closure, or hybrid. Scope could be defined with three levels such as global, local, and community levels. Target means service market that Big Data providers focus on.

IV. Conclusion

We proposed an ecosystems of Big Data and a framework of its service. Even though a service user is a critical factor of ecosystems, a separate research is absolutely needed for framework implementation in analyzing various characteristics of consumers and matching them with strategies of providers.

References

- [1] G. Kress, "The Grammar of Visual Design", Theovan Leeuwen, Routledge, Vol. 2006, No. 1, pp. 16-78, 2006.
- [2] Burton H. Bloom, "Space/Time Trade-offs in Hash Coding with Allowable Errors," Communications of the ACM, Vol. 13, No. 1, pp. 422-426, 1970.
- [3] Christof Strauch, NoSQL Databases, Stuttgart Media University Press, 2012.
- [4] Edgar F. Codd, "A Relational Model of Data for Large Shared Data Banks," Communications of the ACM, Vol. 13, No. 6, pp. 377-387, 1970.
- [5] Marcos K. Aguilera, Wojciech Golab and Mehul A. Shah "A Practical Scalable Distributed B-Tree," Proceedings of the VLDB Endowment, Vol. 2008, No. 1, pp. 598-609, 2008.