“Method for Increment and Distributed Inference by using Map Reduce Algorithm”

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ABSTRACT:

In the upcoming data huge of semantic data, the fast growth of ontology bases has brought significant challenges in performing efficient and scalable reasoning. Traditional centralized reasoning methods are not sufficient to process large ontologies. Distributed reasoning methods are thus need to improve the scalability and performance of inferences. This paper introduces How to increment and distributed inference method for large-scale ontologies by using Map Reduce Algorithm which realizes high-performance reasoning and runtime searching, especially for incremental knowledge base.

Keywords: TIF, RDF, EAT, Ontology, Map Reduce

1. INTRODUCTION

In a large volume of Semantic Web data and their fast growth, diverse applications have emerged in a plurality of domains such as healthcare and life sciences, business management Process, expert systems, e-marketplace, Web services composition and cloud management system, The Semantic Web was estimated to contain 4.4 billion records in the year 2009 and has now reached over 20 billion records. Since RDF is a basic representation of ontologies used to describe the knowledge in the semantic web. It is a model of

reality of the world and the concepts in the ontologies must reflect this reality.

2. PROPOSED SYSTEM

In our proposed system an incremental and distributed inference method (IDIM) for large-scale RDF datasets via MapReduce. The choice of MapReduce is motivated by the fact that it can limit data exchange and alleviate load balancing problems by dynamically scheduling jobs on computing nodes.

Fig- Architecture of proposed system

CONCLUSION:

In the big data era, reasoning on a Web scale becomes increasingly challenging because of the large volume of data involved and the complexity of the task. Full rereasoning over the entire dataset at every update is too time-consuming to be practical. This paper for the first time proposes an IDIM to deal with large-scale incremental RDF datasets to our best knowledge. The construction of TIF and EAT significantly reduces the recomputation time for the incremental inference as well as the storage for RDF triples.

REFERENCES:

1. Bo Liu, *Member, IEEE*, Keman Huang, Jianqiang Li, and MengChu Zhou, *Fellow, IEEE*, "An Incremental and Distributed Inference Method for Large-Scale Ontologies Based on MapReduce Paradigm", *IEEE TRANSACTIONS ON CYBERNETICS*, VOL. 45, NO. 1, JANUARY 2015.