

# Status Report on Description Logics related Project in Korea

Development of Intelligent Business Web Platform at Electronics &  
Telecommunications Research Institute (ETRI), Korea

Shinyoung Lim

Electronics & Telecommunications Research Institute

161 Kajung Dong, Yousong Gu, Daejeon, Korea

[limsy@etri.re.kr](mailto:limsy@etri.re.kr)

## **Abstract**

In this short position paper, the project of building intelligent business information infrastructure using semantic web, ontology, description logics, and other related knowledge representation technologies is presented. From this short description of the project, the author and the participant of the project want to share and communicate with the experts in description logics area, and expand and sharpen their knowledge in description logics.

There is a strong requirement from the business domain in Korea that there will be some technical assistant in the future intelligent business characterizing as autonomous implementation, operation, management, and update. For the realization of this requirement, it is required that technology related with artificial intelligence such as reasoning, inference, and knowledge representation. With these fields, the technologies of applying improvement of automation and intelligence of e-Business information system are also required for the realization of the future intelligent business. There are two major parts of the project at present. One is semantic web related part and the other is a part about the business knowledge processing. From the description logics point of view, the business knowledge processing part is directly related.

In case of semantic web related part, there are 12 researcher staff are involved in the technologies of the semantic business service framework engine and its automatic

execution for the intelligent business processes and its resources based on semantic web service.

And in case of business knowledge processing part of the project, there are 10 research staffs involved in the technologies of the business knowledge process engine and its related tools for the automation and intelligence of the variety business processes by presenting, extracting, and processing business domain knowledge based on the rule engine for business task.

The business knowledge processing part of the project is building the work process for the project. It is composed with 13 steps from analysis and review of case studies to commercialization of the solution. The description logics is regarded as essential knowledge and technology for describing business knowledge in the form of ontology, reasoning and inference of business knowledge for its completeness, correctness, and complexity. Although there are a few specialists and experts in logics in Korea, it will take time to make their knowledge realization. Fortunately, some domestic movement of organizing academic meeting and seminars in the field of logics and description logics for the project is now in the progress to help the project. Among the conclusions of the discussion from the meeting and seminars, the cooperation and collaboration with other countries world leading experts is strongly recommended. The status of the project is in the first year of five year project, and in this year most of the resource is applied to the review and analysis of the case studies and searching for the collaborative partners in the world.