

# Business Logic Model for Web Service Source Control Management

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## ABSTRACT

In the present world of ever-changing and dynamic technologies, web service is an entity that needs the most frequent changes in order to attract and retain customers, as well as to streamline the operations and to reduce the costs in doing business. Typically, the ability to change fast is enabled - even encouraged - by technology. These web services have to be updated in run-time that increases the complexity of the service maintainability process. The services provided most of the time do not meet the customers' requirements and have to be changed periodically. The demands mainly focus on fine-tuning of the web services without affecting the core functionality and QoS parameters of the web services. The fine-tuned changes made by the developer can also lead to exponential problems as the solution of a particular service can lead to a need for another change. Thus, finding a solution for the change does not prove fruitful in long term but there is a need for ensuring successful service computation and better maintenance. The service computation is determined by the computability criteria which include computability, traceability, dependability, configurability and exception handling. These computability criteria are the pillars of the web service, which determine whether the web services do not spring up any side effects when any modification is made as per the customers' complaints. There is no standard model which carries out the above given functions effectively and therefore the proposed business logic model (BLM) channelizes its functions to monitor and analyze the changes made towards the source code of the web service computing environment by the developer. This impact analysis between the existing and modified source code is done through the comparison of the cellular pattern which is generated by the BLM. This cellular pattern gives us complete structure about the web service and thus proves to be helpful in evaluating the computability criteria. We have carried out an experiment to analyze a sample web service in the airline reservation domain and even evaluate its computability criteria thereby providing the results that the computability criteria of the modified source code are maintained. The model can be further extended in the future to automate the generation of the cellular pattern which reduces the service developers overhead and give a statistical historical background to the service change factor. The automation of the cellular generation also gives confidence to the service developer that he is advancing in the right path.

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