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Enhanced Methodology for Call Center Agent Scheduling Utilizing Erlang C and ANFIS

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Abstract: In this paper, a systematic methodology is introduced, which aims to improve agent scheduling in a telecommunications call center. This method involves importing values calculated using the Erlang C algorithm into an Adaptive Neuro Fuzzy Inference System (ANFIS) in order to create agent schedules which fulfill the call center KPI's to a desired extent while maintaining a reasonable level of agent utilization. Several KPI's were under study, including the agent utilization, the efficiency, and the service level. The levels of the KPI's in addition to the call center system constants were used as input parameters for the ANFIS. The schedules created by the ANFIS were imported into a simulation model to validate the results. During the runs, the testing error of the system was minimized, and it was able to generate schedules with increased accuracy. This method was found to be robust and efficient due to the machine learning algorithm.

Keywords: ANFIS, Simulation, ErlangC