REDUCE LARGE BATCH JOBS IN TELCO USING STREAM PROCESSING

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Abstract

Telecommunication industry is one of the largest and rapidly growing, changing and mostly competitive industries in any country and the world. When it comes to technology side industry helps to growth the technology and vice versa. One of most complex and troubledly part of telco is bill generating scenario. Some of companies hired third party solutions from vendors for fulfill the requirement but in Sri Lanka and most of telco companies build their own one. This thesis is about identify currently mostly used scenario and apply big data techniques to improve the process outcome and analyze the pros and cons of two different methods.

According to my research into telco companies most of them are using their own in house develop Java based standalone software component to cater billing scenario. Because of large logics and data some of running programs crashes middle of the run and they have to re-run multiple times to generate all bills. Some of them are taking longer time like more than 7 hours to calculate and summarize data on that day. In this thesis tries to implement above scenario with big data programming related solutions and compare and contrast the pros and cons of existing scenario and new method. In abstract existing scenario's one item compute time 0.23ms while as big data programming related implementation takes 10.9ms per record. But in other hand user can see billing up-to date information real-time in new method.

Keywords: Telco, CDR, Batch processing, Spark Stream, Kafka, Big Data Programming