

This thesis explains Big Data Phenomenon, which is characterised by rapid growth of volume, variety and velocity of data - information assets, and thrives the paradigm shift in analytical data processing. Thesis aims to provide summary and overview with complete and consistent image about the area of High Performance Analytics (HPA), including problems and challenges on the pioneering state-of-art of advanced analytics. Overview of HPA introduces classification, characteristics and advantages of specific HPA method utilising the various combination of system resources. In the practical part of the thesis the experimental assignment focuses on analytical processing of large dataset using analytical platform from SAS Institute. The experiment demonstrates the convenience and benefits of In-Memory Analytics (specific HPA method) by evaluating the performance of different analytical scenarios and operations.