ABSTRACT

Academic Information System Institut Teknologi Sepuluh Nopember (SIAKAD ITS) has three databases located in three different servers because of physical server limitation. A large number of servers is causes complicated backup process and maintenance. This system developing also causes another problem such as unstructured database. To resolve these problems, the data migration process from three databases servers to one database server were applied. After the data migration process is complete, the quality of new database is measured to ensure the quality of data processed is better than the old database. The new database also needs to be done modified with the integration process SIAKAD ITS application so the application can run properly using new database.

Database migration process is made in several stages. The initial phase is to plan migration process, then analyze condition of the three SIAKAD ITS databases including data quality. It continues with analyzing the result and creating the design for new database. The next step is to map data between old database and new database. Once data has been mapped, it is moved through ETL process. The database that which already has data from old new database quality is measured by five dimensions, namely accuracy, completeness, derivation integrity, validity, and non duplicate. After measuring the quality, the integration process with SIAKAD ITS application is applied.
New database quality measurement result percentage 82% for accuracy dimension, 90% for completeness, 81% for derivation integrity, 100% for accuracy, and 100% for non duplicate. The result of this new database’s quality measurements shows that there are three dimensions that reach target value. That dimensions is accuracy, validity, and non-duplicate. Whereas completeness and derivation integrity cannot reach target value. Data integration process also goes well proven by functional testing that has been built previously.

**Keyword**: migration, database, academic information system, data quality, integration.