Diplomarbeit

Titel: Flugplanverarbeitung in einem heterogenen IT-Systemumfeld

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Abstract:

Flight plan data is one of the basics for the execution and coordination of the global aviation. The data is standardized by ICAO (International Civil Aviation Organization) and within the european flight region (Eurocontrol) in different communication protocols. The transfer of the data to the user is done in different time delays till the flight plan is closed again.

Flight plan data is delivered from different trustable sources and is processed in a heterogeneous IT-System. To lower this heterogeneity, the different protocols and the involved syntactical content is mapped to one common data protocol.

With increasing actuality of the data over the period of a flight there is a different semantical meaning of the messages too. As before, the data was processed and stored in different systems and send to other IT-systems for continue the processing.

With this project, the main goal is to simplify the existing heterogeneous IT-system. To store the data in a persistent database, the structure of a central database is to define and to use.

Afterwards the data is to process within defined rules and has to be provided to other IT-systems over a common data pool. The definition of this interface is no longer part of this work.

For now, a central logging for easier analysis and controlling has to be implemented. Thereby every message has to be marked with a synchronized timestamp and stored in a database.

For continuing, the semantic differences of flight plan data is to described and the semantically correlated data has to be stored in a central database, so that the mostly actual flight data is available as a dataset. This is the second process which is implemented in this work.

The processing of flight plan data has to be particularly evaluated in respect of the integrity and availability of the data to keep up the flight safety. All requirements concerning the IT-security and safety have to be defined and afterwards the fulfilling has to be checked with the implemented processes