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**Abstract.** The paper describes capabilities of current MDM (Master Data Management) solutions and prospects of multidomain and multivector MDM solutions. The paper presents the reasons for which MDM of asset data solutions for single data domain are not used successfully in contrast to the existing MDM solutions for other data domains such as customers, suppliers, products, employees, etc. There are challenges of combining several different representations of the same assets in MDM of asset data solution. The conclusion shows that as long as relevant single-domain MDM of asset data solutions are not developed and not implemented successfully, it is too early to move this subject area to multidomain systems.

To solve the problems described above, the authors propose a model of assets master data, which enable to combine different representations. This model includes multiple independent hierarchies for different representations of the same assets, non-hierarchical links specific for each subject area, grids of links allowing to go between different representations of the same asset, a set of asset classifiers whose classes define sets of attributes for describing assets, classifiers of links between assets, as well as structural and functional models for individual asset types. In order to implement the proposed model of master data on assets, the authors have developed a special architecture of MDM of asset data solution, as well as an algorithm for checking the integrity of links between different representations across the whole data model.

Key requirements are defined to the tools for developing a prototype of MDM of asset data solution. It must provide the functionality of a graph DBMS and at the same time a graph engine to perform complex algorithm on the graph as a whole.

**Keywords:** MDM solution, master data management of asset data solution, data model, system architecture, links integrity checking algorithm, SAP HANA Graph.

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