7 FPA-TABLES

Problem description

For a sales system that records and supports sales activities, the following entity types have been defined as part of a data model in third normal-form:

Product:	product number (consists of: product group number, sequence number)
	description
	country of origin (code)
	buyer number
	price
	VAT code
Country:	country code
	name of country
VAT Rate:	VAT code
	VAT rate
	effective date
Buyer:	buyer number
	buyer name

Functions are available for each of the entity types in order to add, change, delete, and query data. Additionally, a report with all the occurrences or specimens of data can be printed for each entity type.

Should these files be considered internal logical files? And is an FPA tables ILF or an FPA tables ELF present here? If so, what is its complexity?

Discussion

Within the framework of section 4.20, the entity type *VAT Rate* is not an FPA table, but an individual internal logical file. Product is also an individual internal logical file.

Because the entity types *Country* and *Buyer* are used only for decoding the codes and numbers used (i.e., they fulfill a secondary function), they should be considered an FPA table. No additional information, for example, is maintained about the buyers.

There is an FPA tables ILF because all the entity types can be maintained. Its complexity is determined as follows: The total number of entity types (two: *Country* and *Buyer*) determines the number of record types of the FPA tables ILF. The total number of data element types (four in all) of the different entity types of the FPA table type makes up the number of data element types of the FPA tables ILF. Via the complexity matrix for internal logical files, the complexity of the FPA tables ILF can be determined (low).

Count one external input, one external output, and one external inquiry for the FPA tables ILF, regardless of the number of entity types of which the FPA tables ILF consist.

Solution

Count three internal logical files:

- *Product*: consists of one record type and seven data element types. The complexity is therefore *low*.
- *VAT Rate*: consists of one record type and three data element types, so that the complexity is *low*.
- One internal logical file for the FPA tables. There are four data element types (country code, name of country, buyer number, buyer name) and two record types (the entity types *Country* and *Buyer*). Complexity is therefore *low*.

References to the standard

4.20, 4.21, 5.2.a and 5.2.k