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# TAMS And Foreign Keys

TAMS and other database systems use a number of special fields called “keys”. These are used to uniquely identify data items. For example, all assets in TAMS are located in a table called “Compnt.db”. The following diagram illustrates its key structure.

The fields “Level 1”.. “Level 5” have different meaning depending on the module / type of asset. For example the Water and Sewerage module uses “System” ... “Sub-System”... “Facility”, whereas the Roads module uses “Road”... “Segment”... “Sub-Segment”.

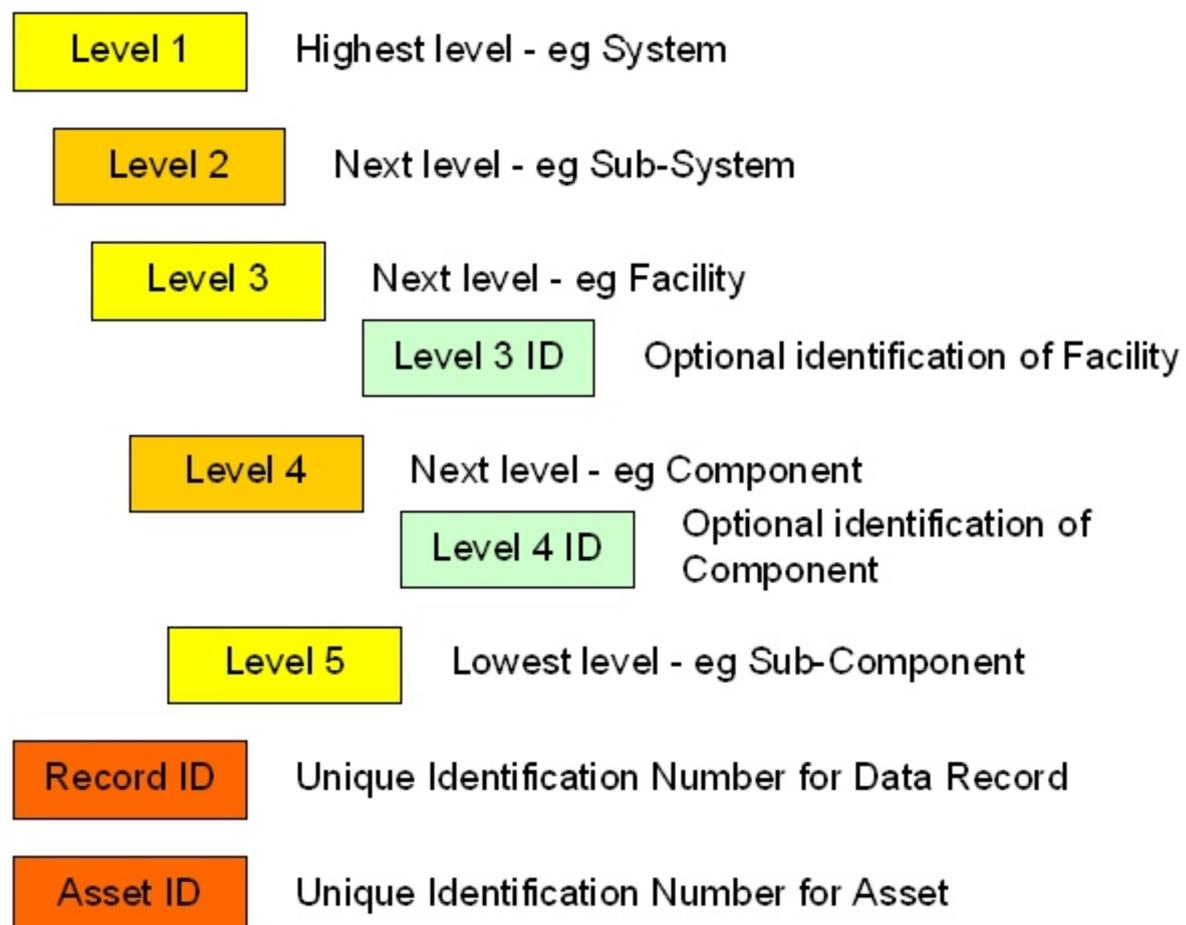
This hierarchy / tree structure allows for the systematic classification of complex networks. The fields “Level 3 ID” and “Level 4 ID” can be optionally used where there are several assets of the same type.

In addition, these identification numbers can be used to link to “the outside world” where there may be other numbering systems in place.

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## Key Structure Of The Compnt Table - Master Set Of Module Assets

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For example, Sewerage Treatment Plants (“Facility”) might be called STP-East, STP-West, STP-North, STP-South and so on. Similarly manholes (“Component”) might be painted with a code “MH001”, “MH002” and so on.

Internally TAMS uses the RecordID to link data about assets. Every asset has a single unique number assigned automatically during data entry, and this is used to register any information relating to the asset. This is the master key for all TAMS operations.

In addition, TAMS provides an Asset ID which is intended for use in connection with other systems. For example, if a maintenance management system or a finance system held information about an asset using a different unique identification number, it could be registered in TAMS in the Asset ID field.

## TAMS AtomicID Table

To simplify future development of TAMS and to facilitate linking TAMS to other systems, a table “AtomicID.db” has been implemented. This is located in the CommData directory. The CommData directory holds data common to all TAMS modules. The AtomicID table holds key information for all assets from all modules. Its structure is summarised in the following diagram.

“RecordID” is a unique identifier for all assets regardless of their type or which module they belong to. The old Ids are registered to ensure compatibility between old and new data.

“ModuleID” is used to indicate which module contains asset details.

“Level” is used by TAMSSMap to simplify processing when “drill-down” is used - for example, Level = A indicates a high-level large asset (for example a water resevoir) whereas Level = E indicates a low-level small asset (for examople a manhole).

“Spatial Link” is used by TAMS and TAMSSMap to indicate whether an asset is registered in both systems. So for example if an asset is not registered in TAMSSMap, there is no point in TAMS requesting TAMSSMap to display it.

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## Key Structure Of The AtomicID Table - Master Keys Of All Modules

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Record ID	Unique Identification Number for Data Record
OldRecord ID	Old UID from each module
Asset ID	Unique Asset ID
OldAsset ID	Old Asset ID from each module
Module ID	Module 2-character mnemonic code
Level	Indication of how complex the asset is - eg an assembly or a component of an assembly
Level 1	Generic level - eg System in WS and Road in RD both are Level 1
... Other fields used by other systems	
Spatial Link	Unique Identification Number for Asset

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