Hub definition

	Hub	
PK	HashKey	Each business key in the hub should have a hash generated key.
	`BusinessKey(s)`	When a BK is a composite key, its sections can be split into separate fields within the hub. The Hash key should be generated using all the fields that compose the BK. It is also possible to have one entire hub per component of the composite key but it needs to exist a hub for the general and complete BK.
	`LoadDate`	Timestamp generated by the data warehouse (or the ETL process) when the BK initially arrived in the data warehouse. All load dates for a single load cycle should be set to the same timestamp.
	`RecordSource`	Source system where the data is originated. Is better to use a lowest level of granularity for the source. Example: `SAP.FINANCE.GL` instead of `SAP`.
Optional	`LastSeenDate`	Should only be used if there is no audit trail or CDC (Change Data Capture) information. Indicates when the BK was "last seen". It gives a business power to decide when a record should be considered as being deleted by the source system, by defining the number of days required to pass before the record is considered as being deleted.

Hub characteristics.

- Business keys in the same hub should have the same Semantic granularity.
- The business key can be a composite key.
- It uses the Record source. and the Load date. to track the arrival of a new business key in the data warehouse.
- The primary key is a hash key generated for each business key in the hub. **This hash is used to reference the business object in other entities (sats and links).**

⚠️ In Data Vault the Composite Key and Smart Key have different meanings...

- Both have the same goal to capture the required grain of the business key.

- **Composite Key**: made up of an unique combination of columns.
- **Smart Key**: only a single column where the individual part of the BK are combined.

> 👆 To identify a business key in the source system...
>
> Ask the current users: **How do you identify, track and locate information?**

Glossary.

Semantic granularity

- A contact person that is an individual should be in a different hub than a customer that is a corporation (there might be more than one contact in a corporation).

Composite Key

- One example of a composite key is a vehicle identification number (VIN), which includes information about the manufacturer (the first three characters, called the WMI code) and vendor-specific information, such as the manufacturing plant and a serial number.
- Also, called as smart or intelligent keys.

Business key

- Should have a very load propensity to change and be unique in a given operational system.
- There might be different business objects in different operational systems with the same business key but not in the same operational system.
- *Examples*: customer numbers, product numbers (UPC, EAN, ISBN), account numbers, part numbers, etc.
- Some business keys can be smart keys or surrogate business keys.

> ℹ️ The scope of the business key...
>
> Every BK has a scope. For example, a BK that is unique to an operational system, has its maximum scope to the frontier of the operational system.

Composite keys (aka Smart Keys, Intelligent keys)

- Key composed of keys specifying different components.

- Example: Every Vehicle information number (VIN) have 3 parts: a worlds manufacturer ID, a vehicle descriptor section and a vehicle ID section.