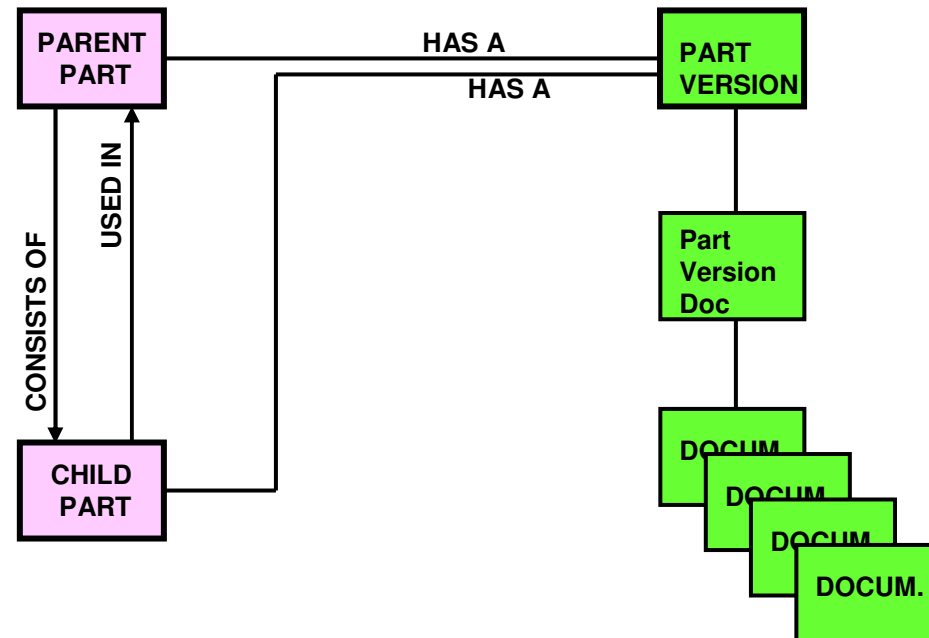


Product Structure & Part Structure vs. Part Version

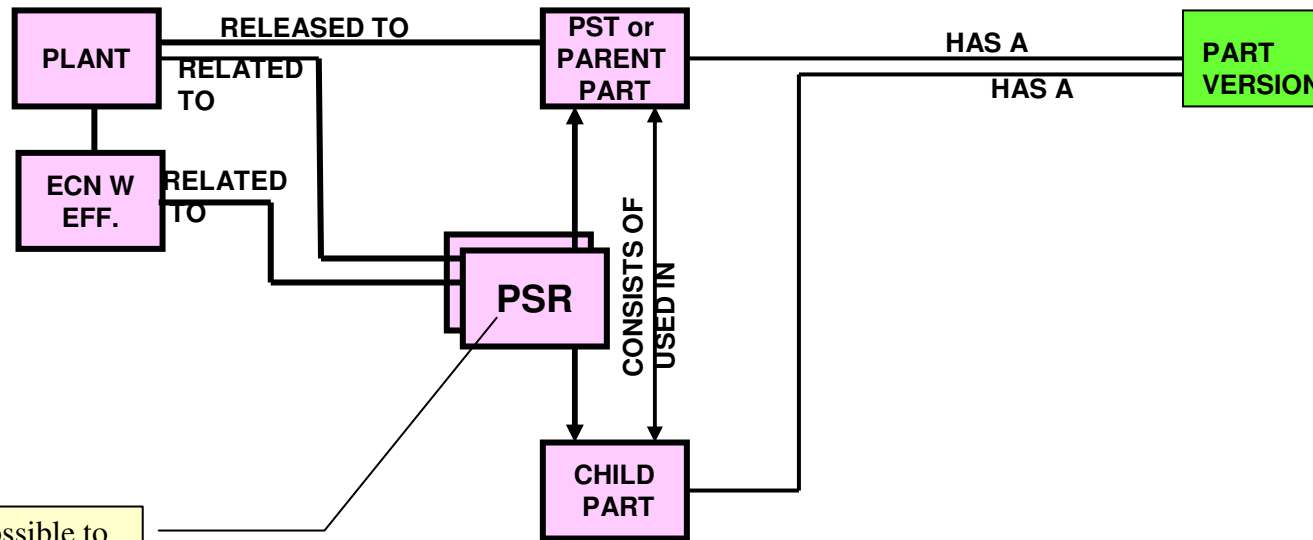
A Parent Part is either

- A Non Configurable Part (Assembly) that contains Constituent Parts (or Child Parts)
or
- A Configurable Part that is the top of the Product Structure Parts (Product Variant or Eqmt. Variant)

Note: It is *not* necessary to use Part Version in the Product Structure. Part Version is *only* used to Manage Part Version Documents! However, every Part has one or several Part Versions as **Part Information**.



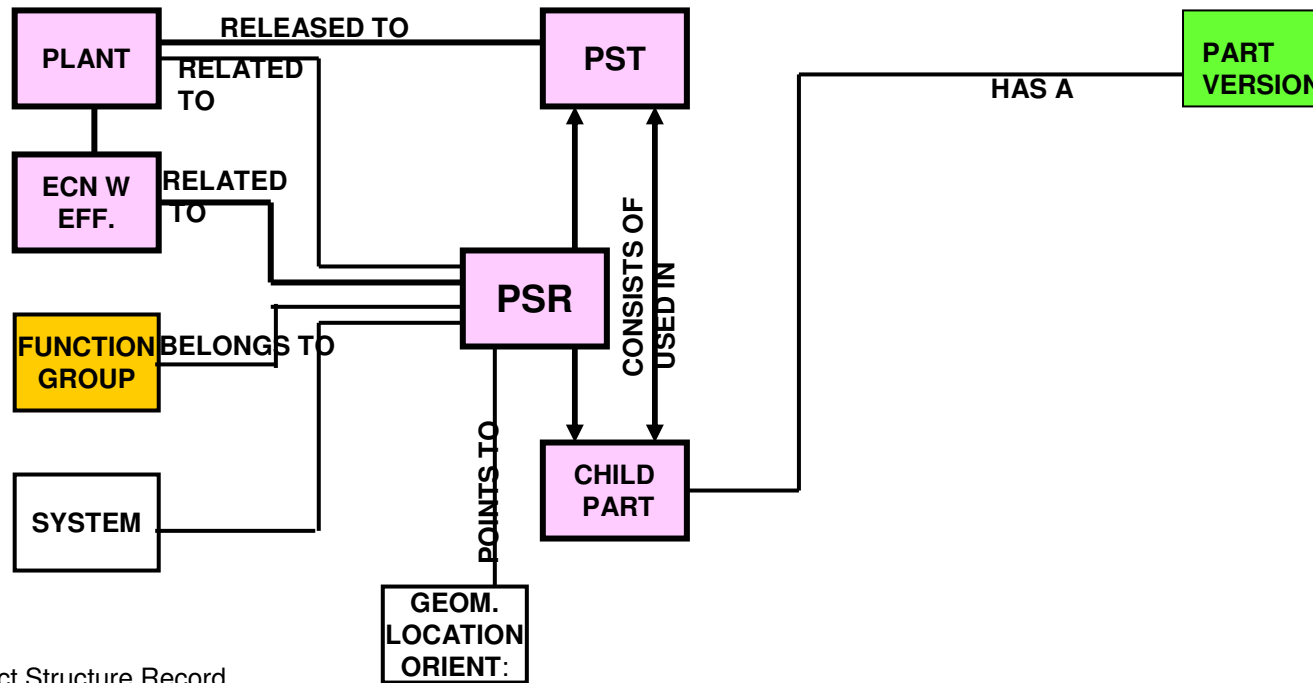
Part Structure – PSR – Part Structure Record



It should be possible to have Several PSRs, each with a “to date” and a “from date” (same P/N used several times in same Parent)

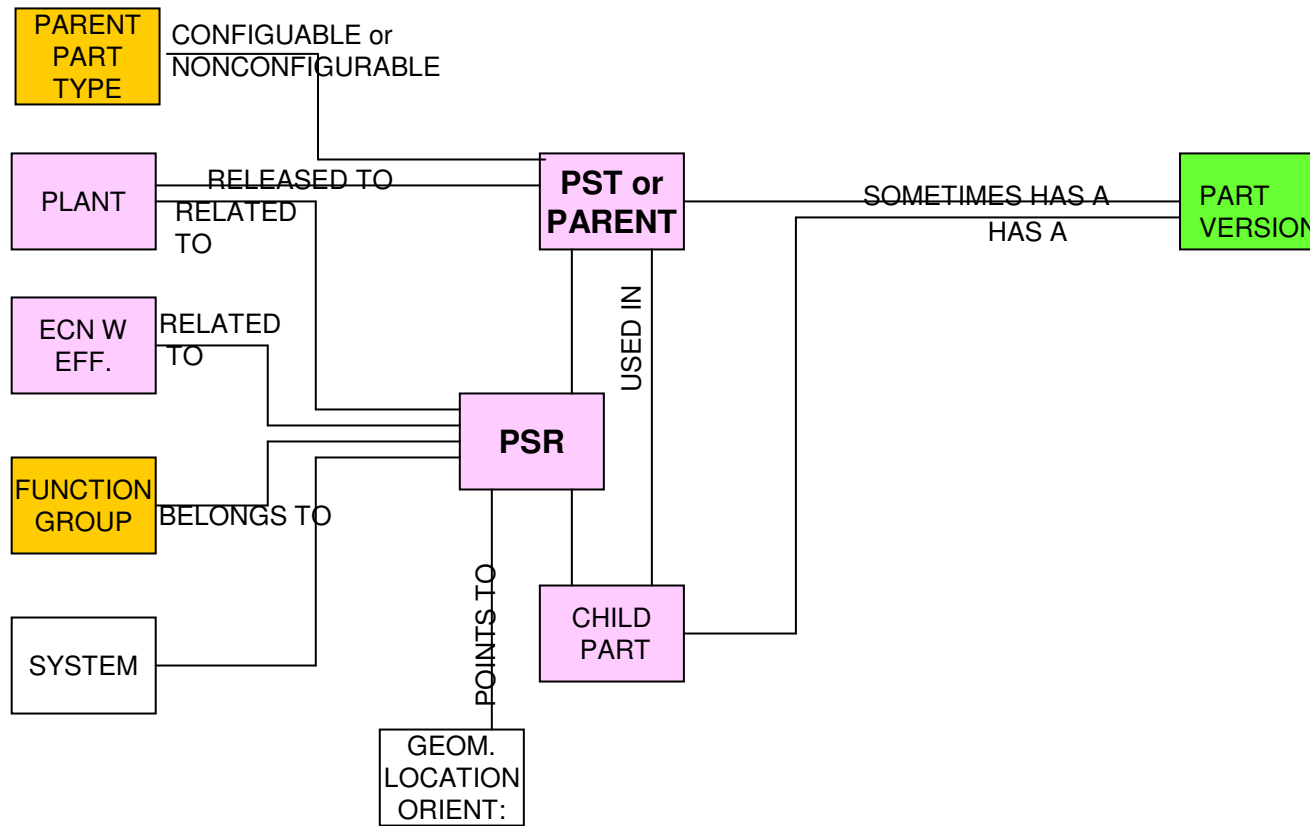
PST = Product Structure Top
PRS = Product Structure Record
ECN = Engineering Change Notice
EFF = Effectivity

Product Structure – PSR - ECN

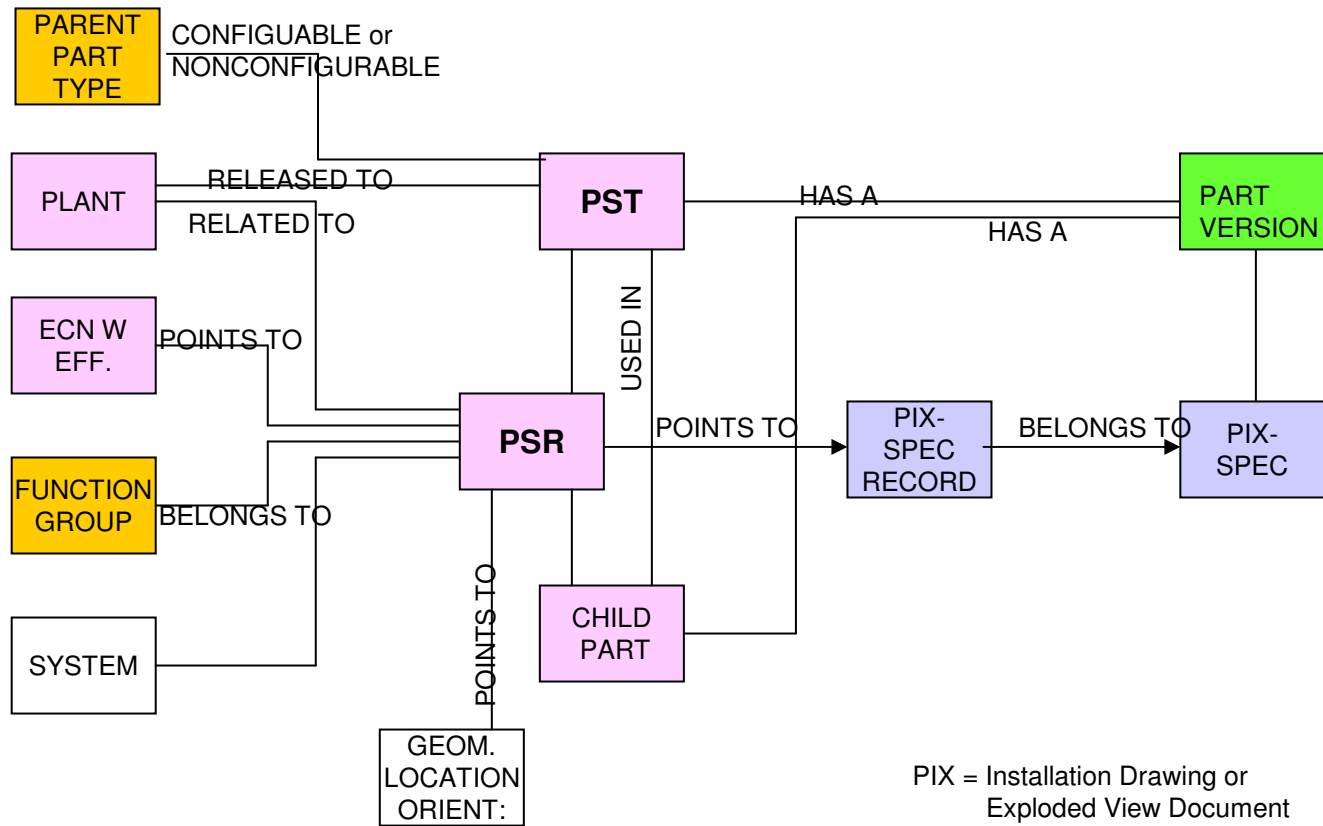


PSR = Product Structure Record
ECN = Engineering Change Notice
EFF = Effectivity

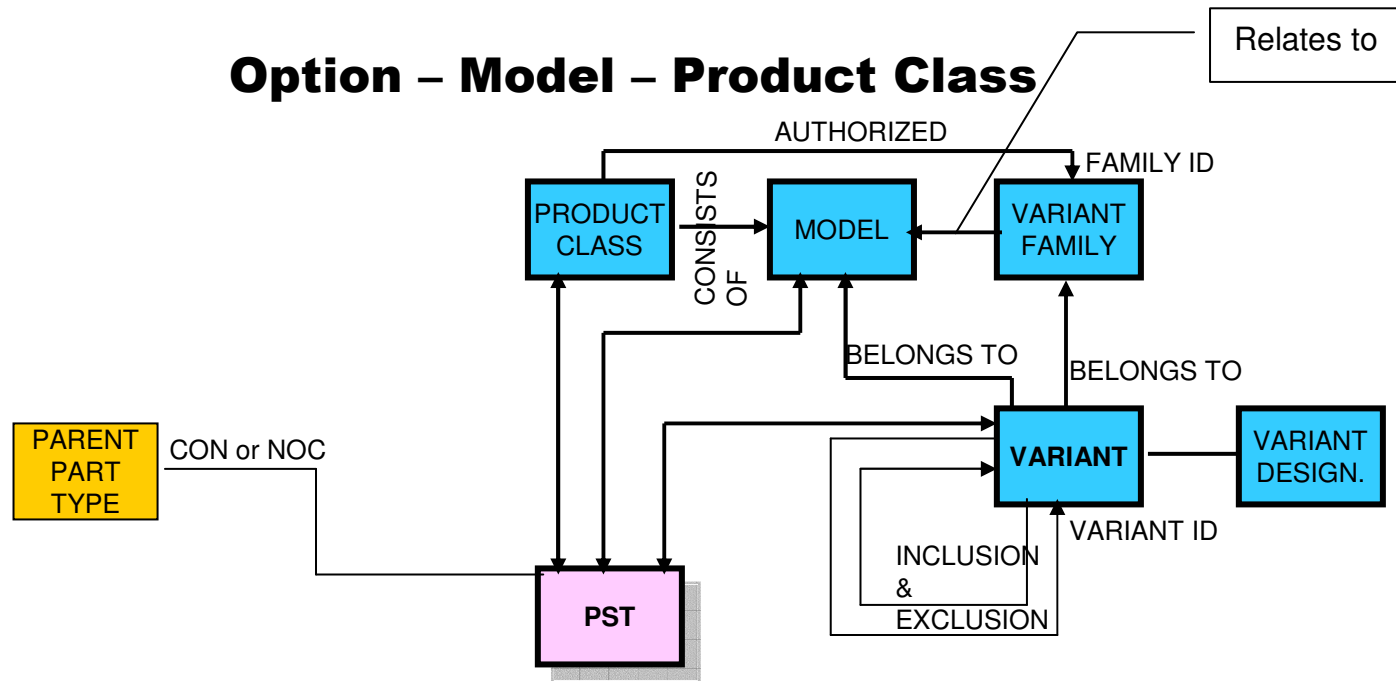
Product Structure – PSR – FGR/System



Product Structure – PSR – PIX-Spec



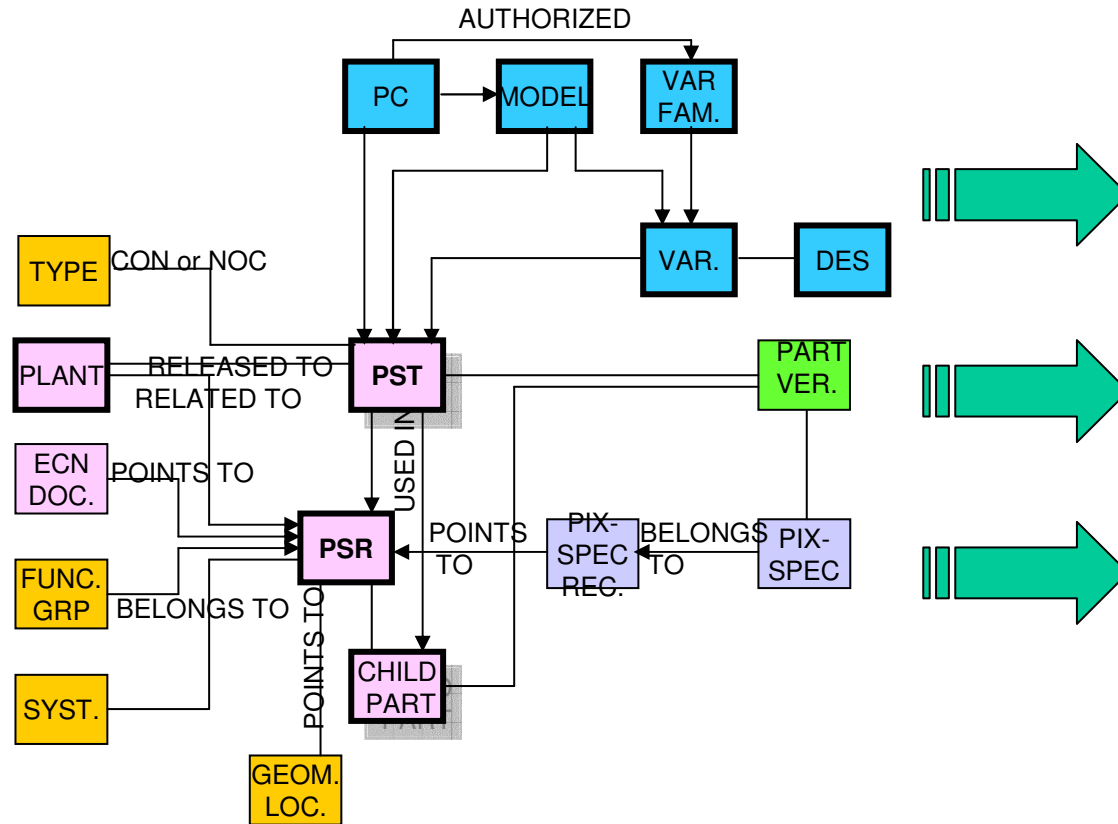
PIX = Installation Drawing or
Exploded View Document
PSR = Product Structure Record
ECN = Engineering Change Notice
EFF = Effectivity



Note: A Variant (in this context) may be a single Variant or a combination of several Variants

The rules handling Inclusions and Exclusions will be handled by the Boolean Operators, *AND, OR; NOT, TRUE and FALSE*

Product Structure Views

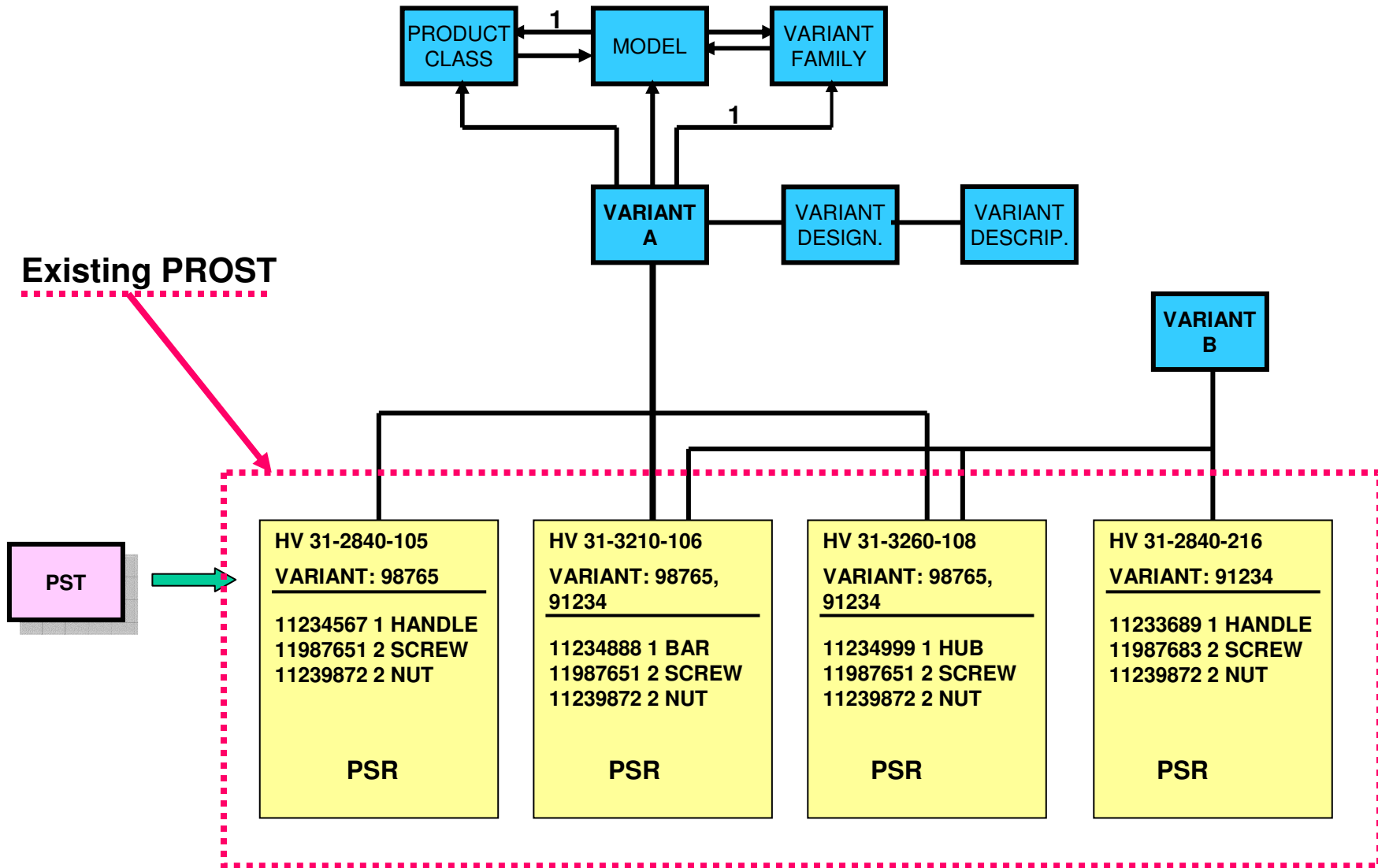


**Product Structure
and
Life Cycle
Views
of the
Nominal Product**

Examples

Further explanation

Complete Product Structure



Product Identities

Product Class 31: Medium and Heavy Wheel Loaders

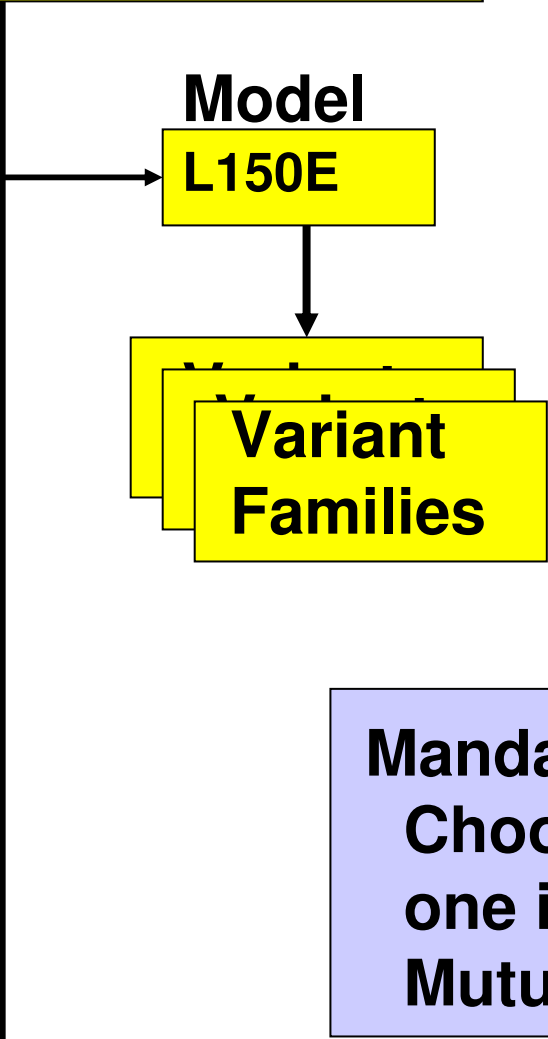
- Model**
- L50D
 - L60E
 - L70E
 - L90E
 - L110E
 - L120DIR
 - L120E
 - L150E
 - P3080
 - L150D
 - L220D
 - L220E
 - L330E

NB! PV and UV are replaced by PST.
However, The Part Numbers for PV & UV will be used for the PST

Vitality: **CURR**
PROJ
HIST

Product Identities

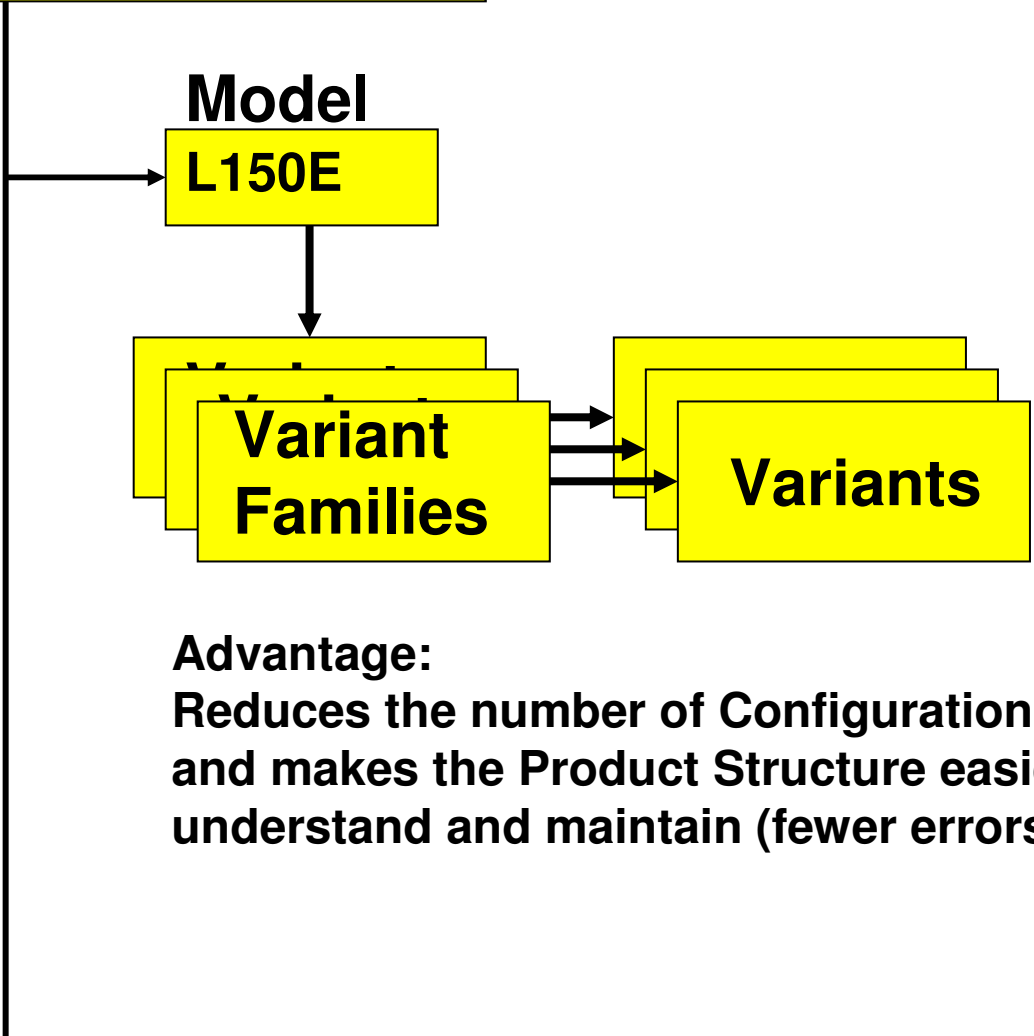
Product Class 31: Medium and Heavy Wheel Loaders



Mandatory:
Choose one VARIANT but only one in a VARIANT FAMILY!
Mutually Exclusive.

Product Identities

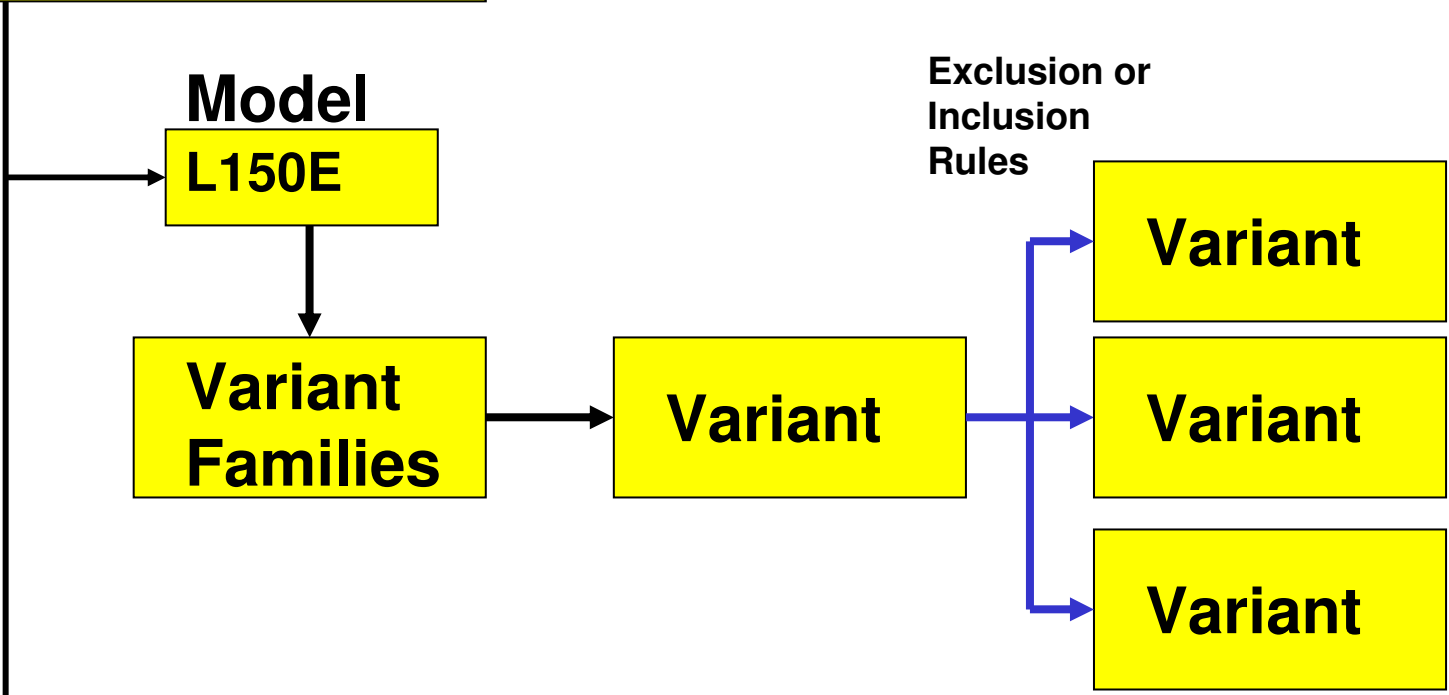
Product Class 31: Medium and Heavy Wheel Loaders



Advantage:
Reduces the number of Configuration Rules and makes the Product Structure easier to understand and maintain (fewer errors)

Product Identities

Product Class 31: Medium and Heavy Wheel Loaders



- **Exclusion:** Other Variants that have to be excluded: Not possible Combinations.
- **Inclusion:** Other Variants that have to be included: Mandatory Combination

Product Identities

Product Class 31: Medium and Heavy Wheel Loaders

Model

L150E

Variant Combination

A Variant Combination may be a single Variant or a combination of Variants from other Variant Families that defines a set of Parts that are also defined by a PST (Today: PV and/or UV).

Product Identities

Product Class 31: Medium and Heavy Wheel Loaders

Model

L150E

Product String

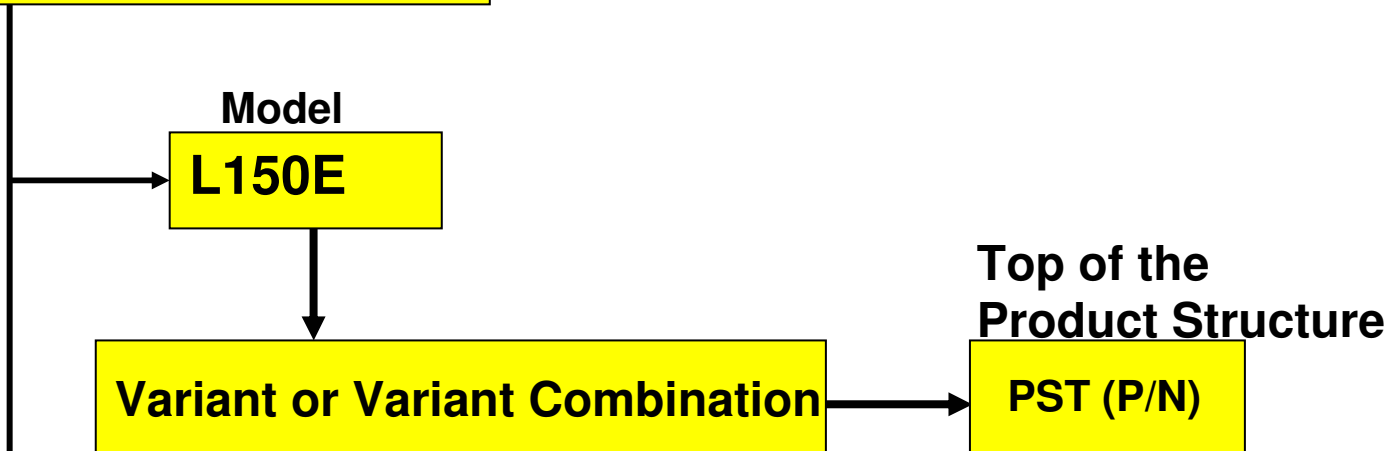
A set of Variants from all the Variant Families that fully defines a fully operable Product Instance as specified by a Customer Order.

The specified Variants should be within the specified Configuration Rules as specified by Product Engineering (Technical & Legal Rules).

Market related Configuration Rules will not be handled here.

Part List

Product Class 31: Medium and Heavy Wheel Loaders



For each PSR (Part related to the PST) there will also be a relation to one or more Function Groups.

This will be presented on one or more HV Specs.

A PST will be related to a Variant or a Variant Combination in the new version of the HV Specs.

For each released ECN there will be an Effectivity per PST and per Plant as decided by the Manufacturing Engineering at each plant affected.

An important change but easy to understand!

Advantages with proposed solution

- Close to current Volvo CE Product Definition and easy to understand.
 - **logical** superstructure on top of the PST (PV/UV)
 - similar logic to what is **used at Volvo Trucks** which will improve cooperation regarding Engines and ESW.
 - will make **Credit Parts** unnecessary
 - will allow a Product Structure that will reflect the complexity of the Products in a way that **will feel natural** and that will be **easy to understand** (intuitive).
- will allow a possible interface to a modern Order Entry Application (MOM)
- will allow continued use of existing interfaces to most downstream applications using PDM Information.
- will allow the development of new generic Interfaces to MRP applications.