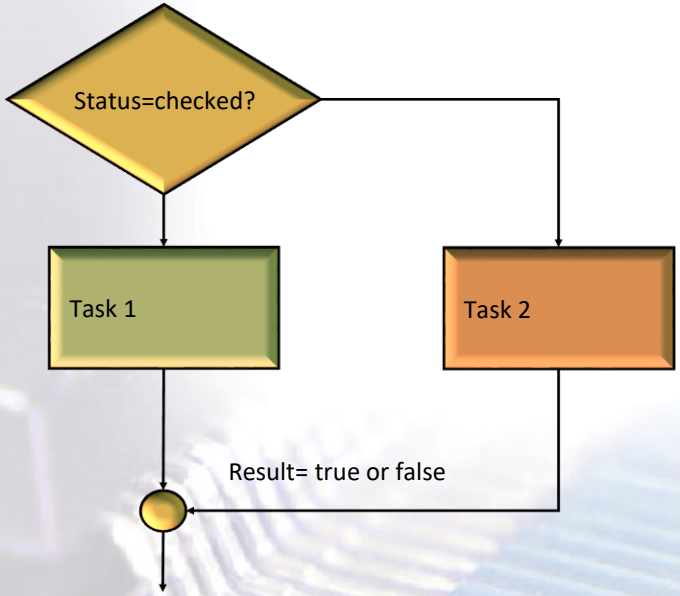
CSK - CAD Systeme Kluwetasch

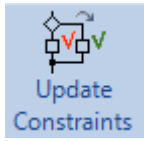
MRP-Link Constraint Functions

Decision and Update Constraints

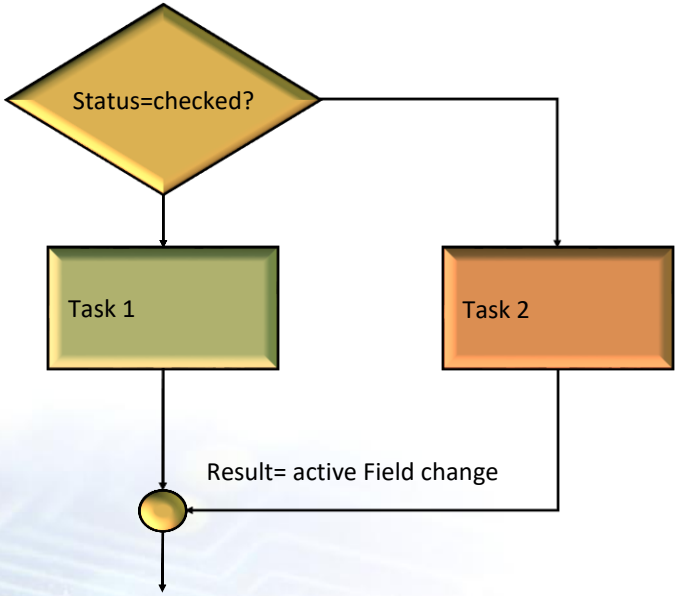
The MRP-Link use two different types of constraints.

…will be used to control the workflow based on existing values.





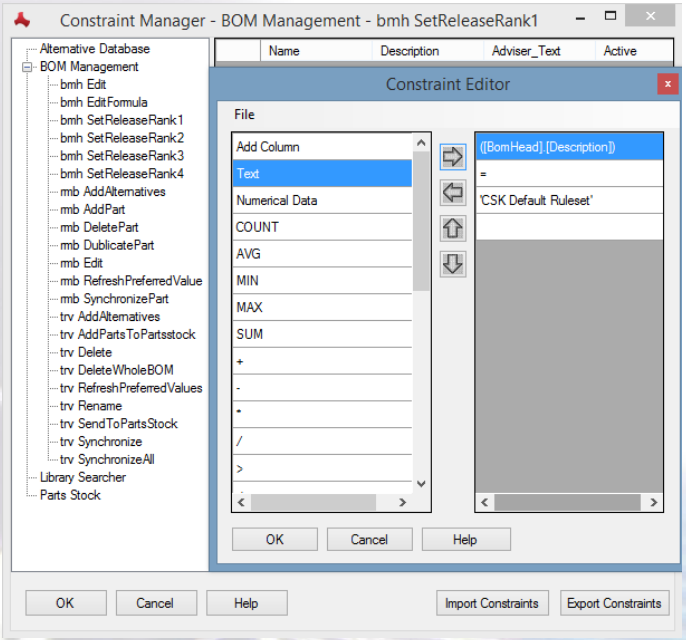
…will be used to change the field contend based on conditions.

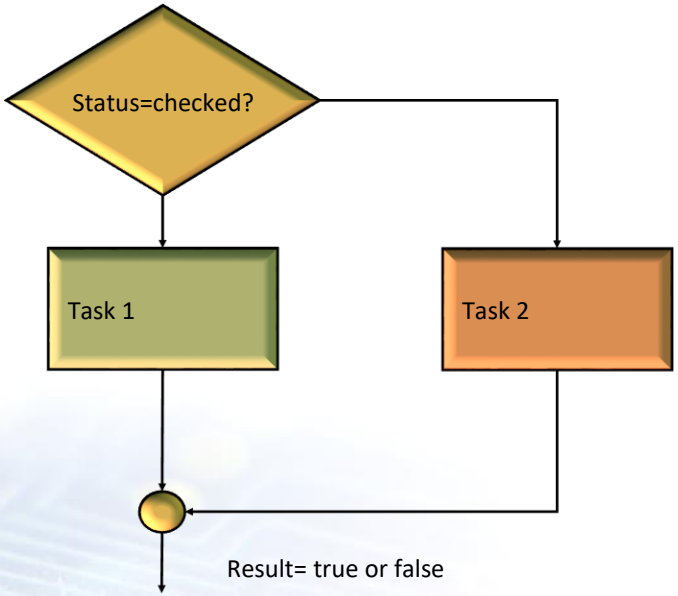


Decision Constraints

Key functions:

- Assign company workflows into MRP-Link
- Define individual rules based on companies requirements
- Add rules to user actions
- Easy adapting of rules when workflows have to be altered

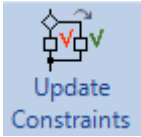


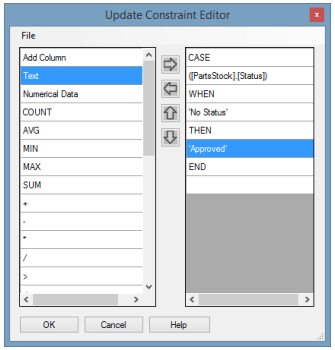


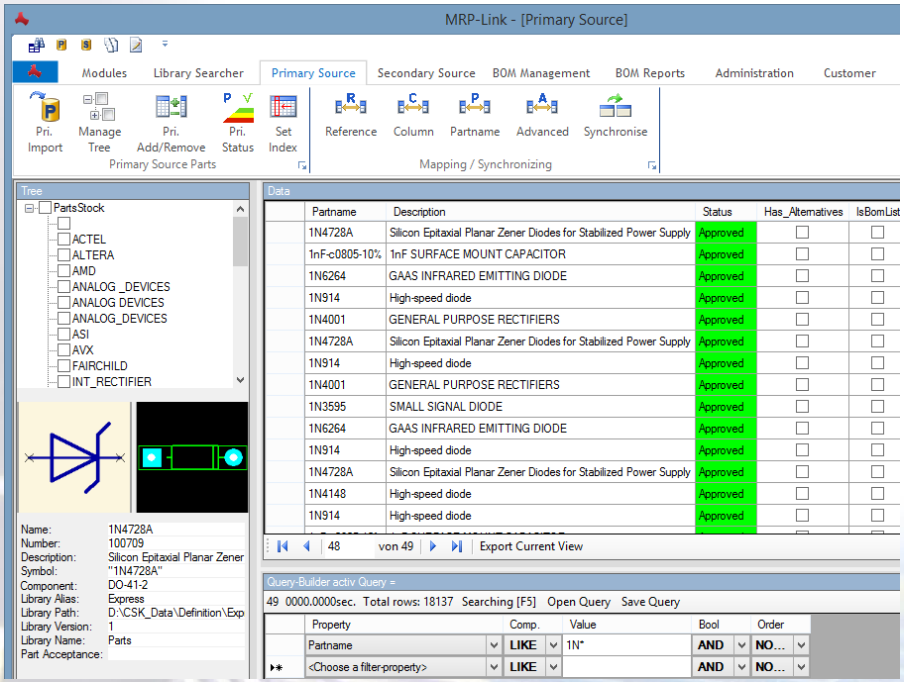
Update Constraints

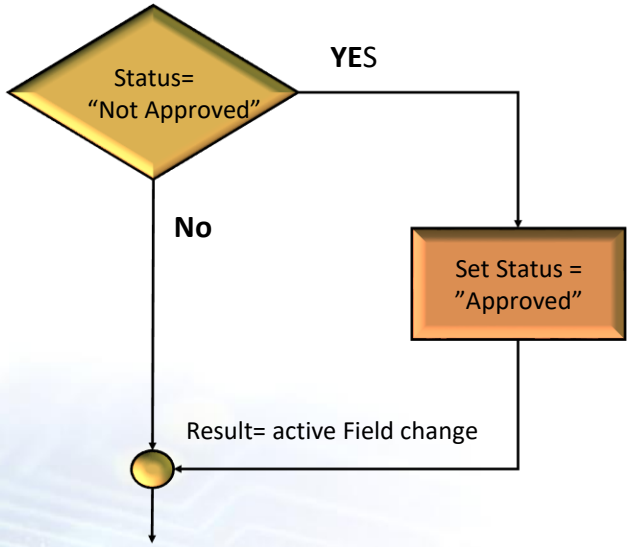
Key functions:

- Assign company workflows into MRP-Link
- Define individual rules based on company requirements
- Update rule based columns with calculated values



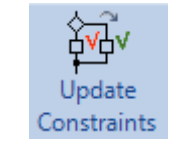




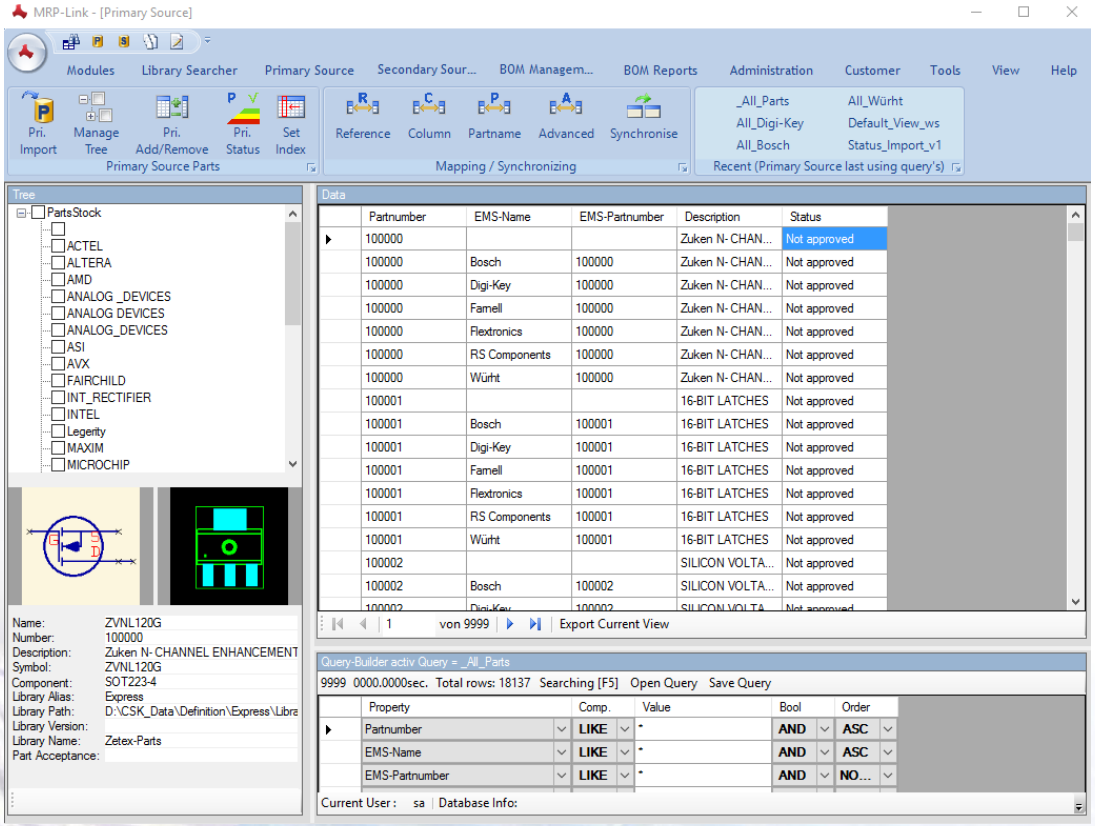


Constraints Practice

Example to show the functionality of the MRP-Link Decision – and Update Constraints in a real environment.



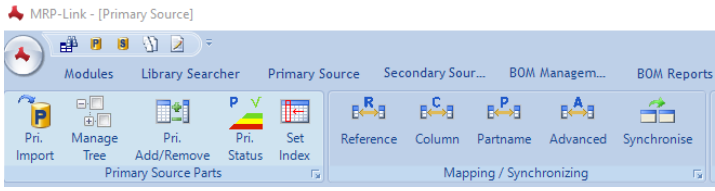
Step on the Update Constraints

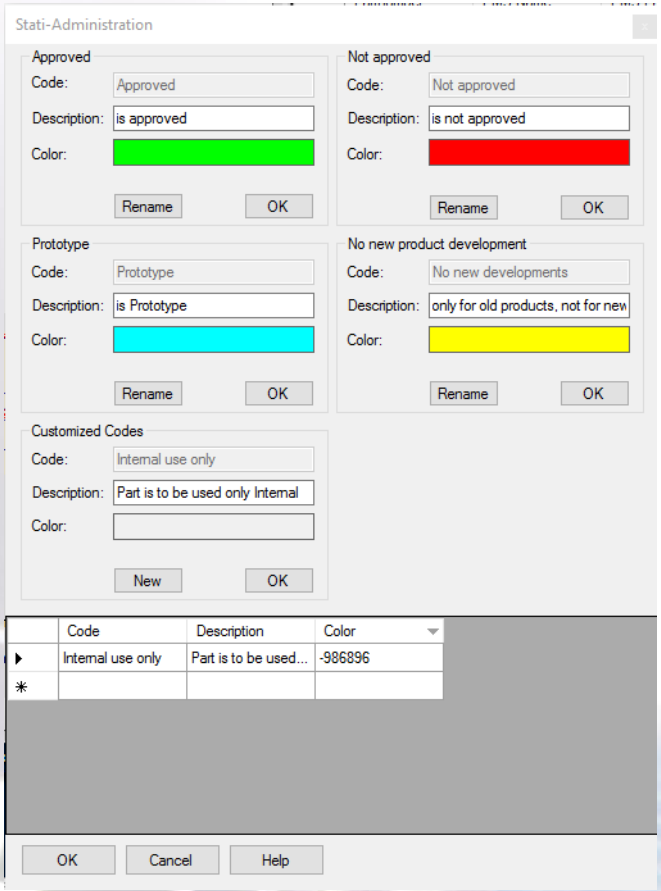


Status Setup

To work with a status for any Part or BOM the system needs a setup about all available Status Values in your workflow.

The Part Status is set in the Primary Source.





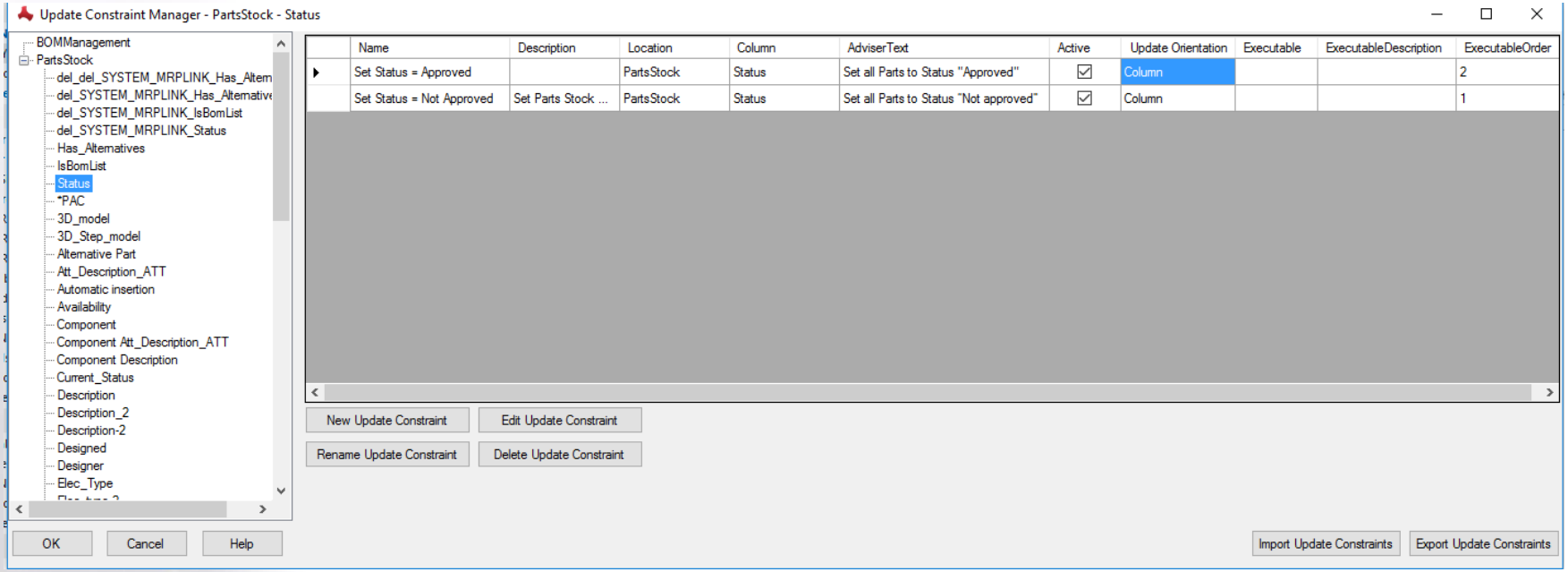
In addition to the default common Status Code.

Is it possible to add own codes to represent a special status. Each status could have a own colour.

Different Status Information will be used for Parts, BOM's and Secondary source relations ships.

Update Constraints Setup

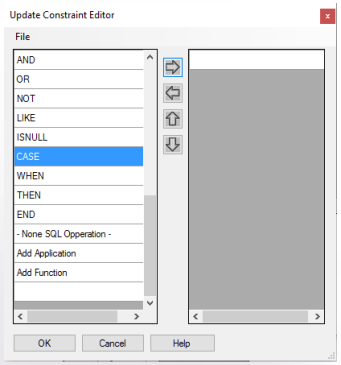
With the Update Constraint Manager window it will be possible to manage all the different Update Constraints for certain fields in your database.



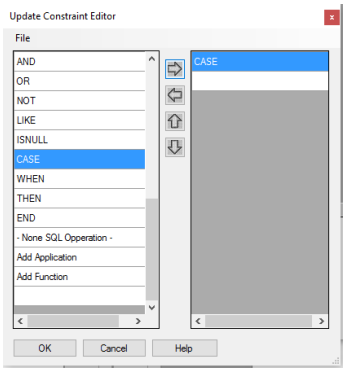
Update Constraints are available for the BOM Management and for the Primacy source. This changes will be passed via synchronisation to other areas for the database.

Update Constraints Creation

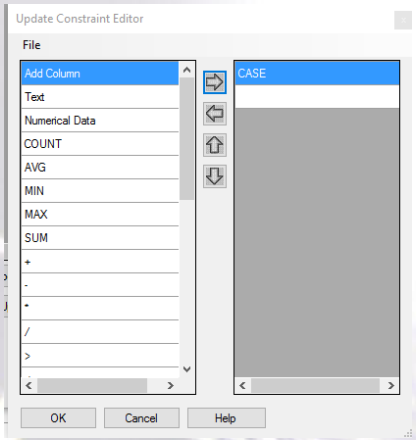
A new Update Constraint can be clicked together quickly in the editor.



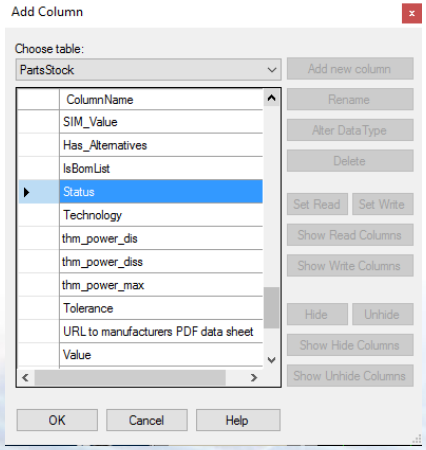
For syntax reason start with a CASE command.
Select at the left side your command, click at the right arrow and transfer the command in your working area.



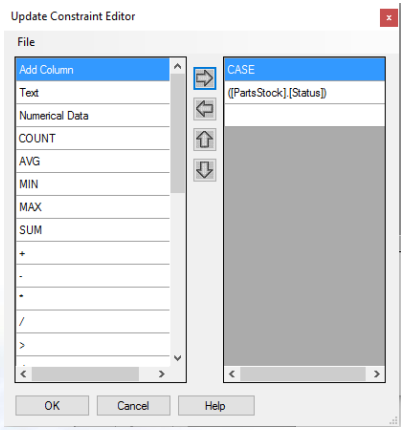
To refer to a content of a database field select “Add Column”.



In this example we will select from the PartsStock the “Status” field.

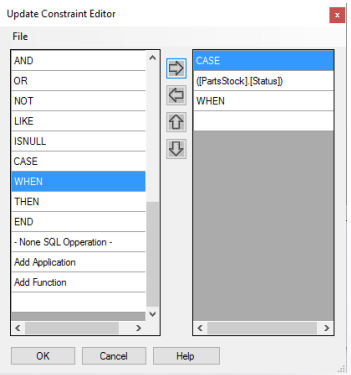


Click at the right arrow and transfer the “Status” field to get access to the content.

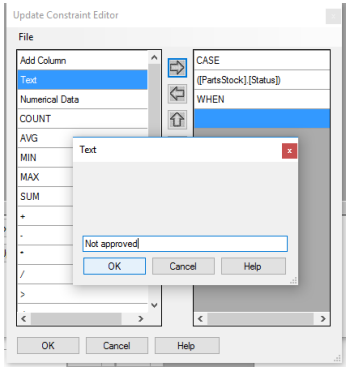


Update Constraint creation

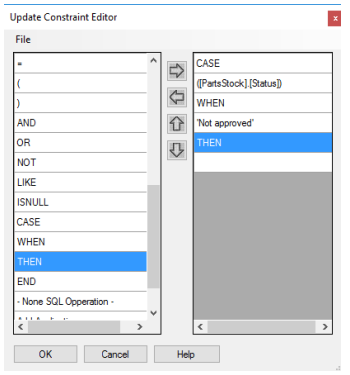
With the same technic all other elements will be selected to setup the necessary function.



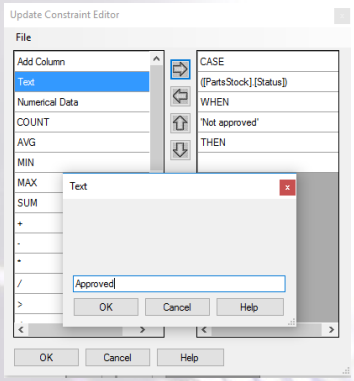
Conditional element “When”



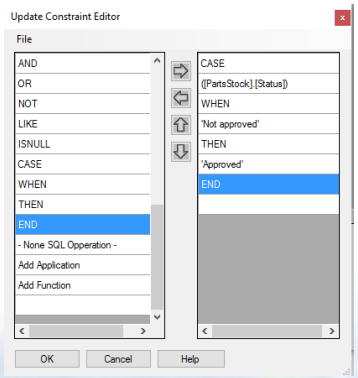
Text field element with free content complement with “Not approved”



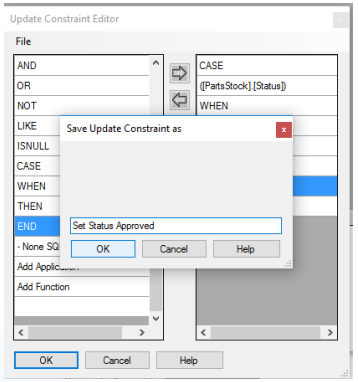
Conditional element “Then”



Text field element with free content complement with “Approved”



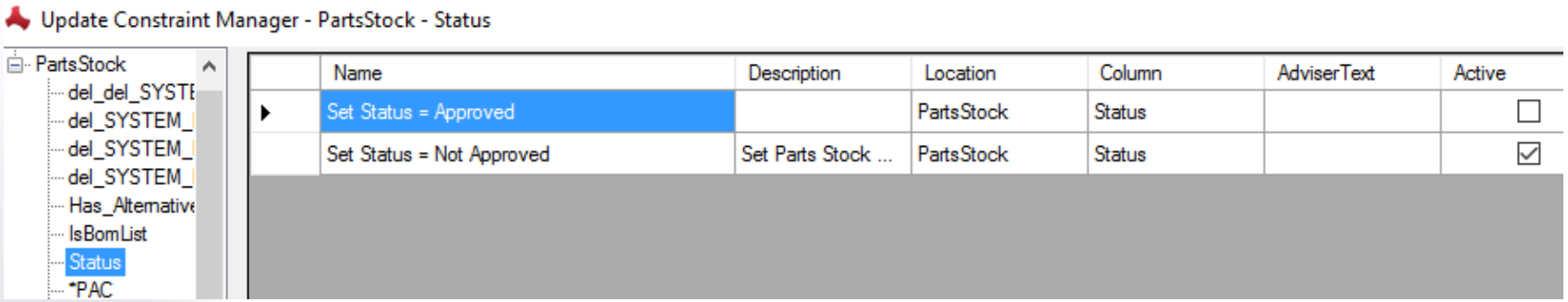
Conditional element “End”

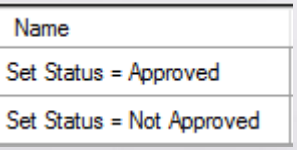


The new update constraint must get a name before use.

Update Constraint Manager

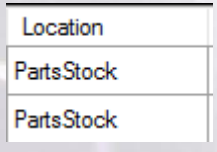
This view shows us two different Update Constraints for the field “Status”.



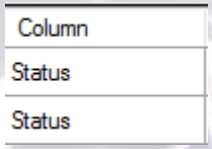


A short simple Name to identify the constraint in the RMB Menu.

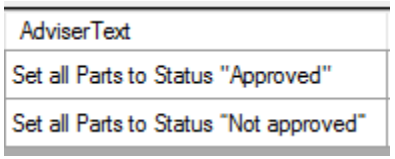
A preview to the code of the constraint.



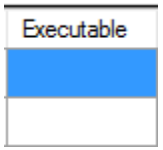
The information about the used table.



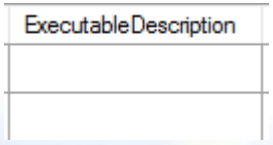
The reference about the reference field.



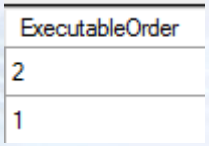
Adviser Text as remark.



Executable
(MRP-Link checks this Update Constraint if you export and import to a new Database – Only simple column check).



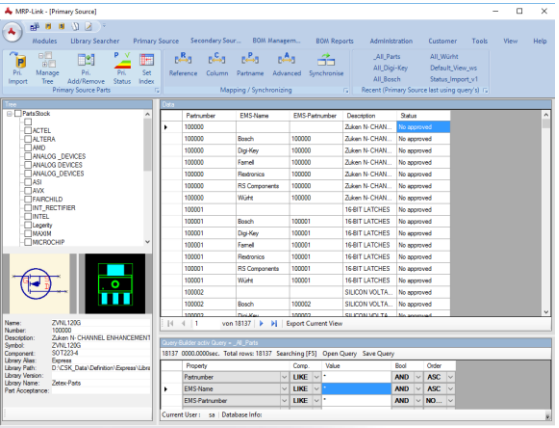
Executable Description
(Added by system after import to another Database).



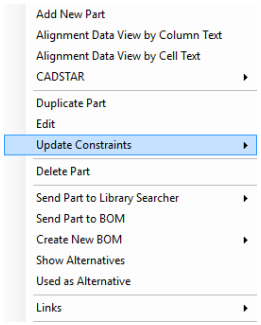
The order in the RMA Menu.

Execute of the Update Constraint

The new added constraint was created for the “Status” field.

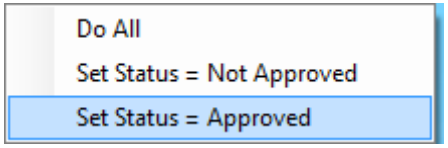


Therefore select the Status column and use the RMB bottom.



The “Do All” menu point will carryout both status constraints in series.

Otherwise select the constraint you require



Results of the first constraint:

Set Status to “Not approved”

Data

Partnumber	EMS-Name	EMS-Partnumber	Description	Status
100000			Zuken N- CHAN...	Not approved
100000	Bosch	100000	Zuken N- CHAN...	Not approved
100000	Digi-Key	100000	Zuken N- CHAN...	Not approved
100000	Farnell	100000	Zuken N- CHAN...	Not approved
100000	Flextronics	100000	Zuken N- CHAN...	Not approved
100000	RS Components	100000	Zuken N- CHAN...	Not approved
100000	Würht	100000	Zuken N- CHAN...	Not approved
100001			16-BIT LATCHES	Not approved
100001	Bosch	100001	16-BIT LATCHES	Not approved
100001	Digi-Key	100001	16-BIT LATCHES	Not approved
100001	Farnell	100001	16-BIT LATCHES	Not approved
100001	Flextronics	100001	16-BIT LATCHES	Not approved
100001	RS Components	100001	16-BIT LATCHES	Not approved
100001	Würht	100001	16-BIT LATCHES	Not approved
100002			SILICON VOLTA...	Not approved
100002	Bosch	100002	SILICON VOLTA...	Not approved

Results of the second constraint:

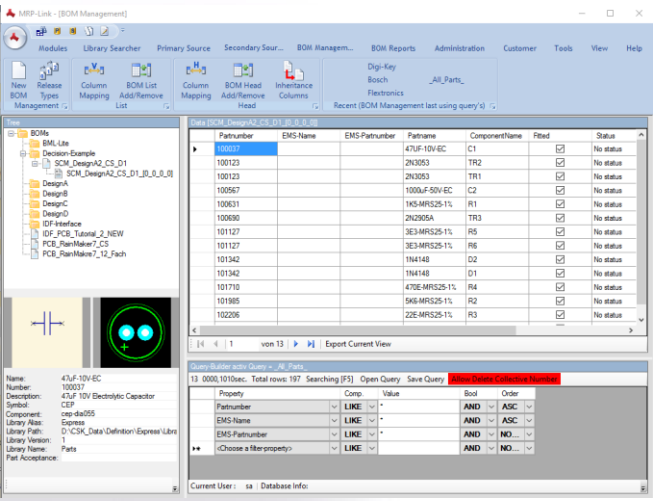
Set Status to “Approved”

Data

Partnumber	EMS-Name	EMS-Partnumber	Description	Status
100000			Zuken N- CHAN...	Approved
100000	Bosch	100000	Zuken N- CHAN...	Approved
100000	Digi-Key	100000	Zuken N- CHAN...	Approved
100000	Farnell	100000	Zuken N- CHAN...	Approved
100000	Flextronics	100000	Zuken N- CHAN...	Approved
100000	RS Components	100000	Zuken N- CHAN...	Approved
100000	Würht	100000	Zuken N- CHAN...	Approved
100001			16-BIT LATCHES	Approved
100001	Bosch	100001	16-BIT LATCHES	Approved
100001	Digi-Key	100001	16-BIT LATCHES	Approved
100001	Farnell	100001	16-BIT LATCHES	Approved
100001	Flextronics	100001	16-BIT LATCHES	Approved
100001	RS Components	100001	16-BIT LATCHES	Approved
100001	Würht	100001	16-BIT LATCHES	Approved
100002			SILICON VOLTA...	Approved
100002	Bosch	100002	SILICON VOLTA...	Approved

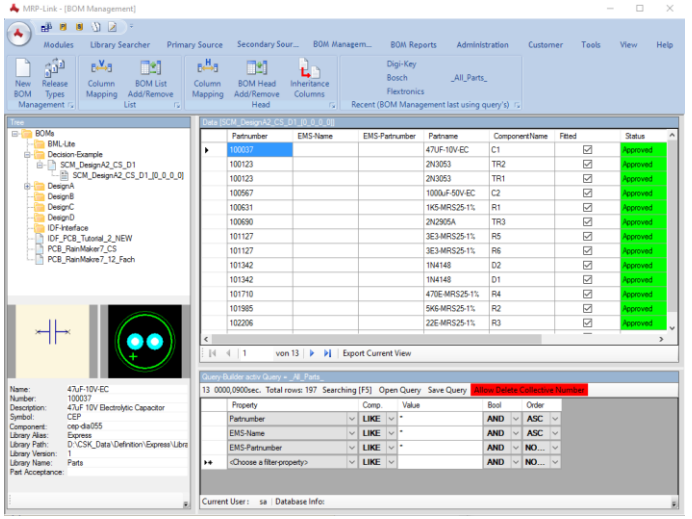
Status Synchronisation in BOM

The new status information in the Primary Source can be synchronized into the BOM.
The individual Part Status information will be used as basis for the overall status of this BOM Version.

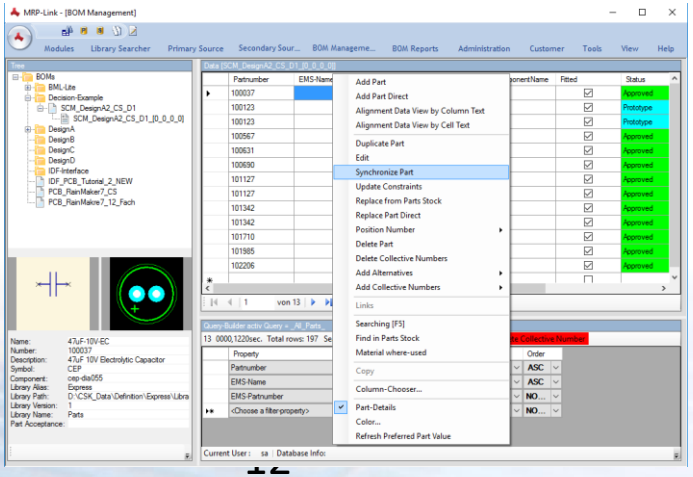


After
“Synchronize all”

From
“Not approved”
to
“Approved”

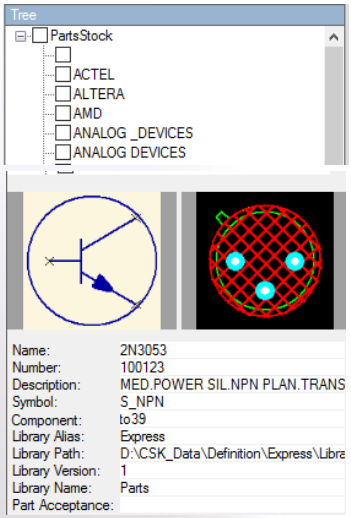


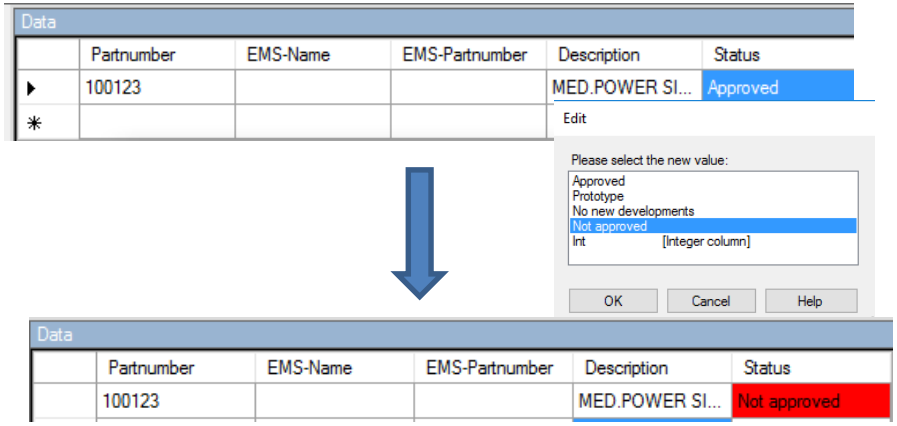
After
synchronisation.
Only one Part
to Prototype

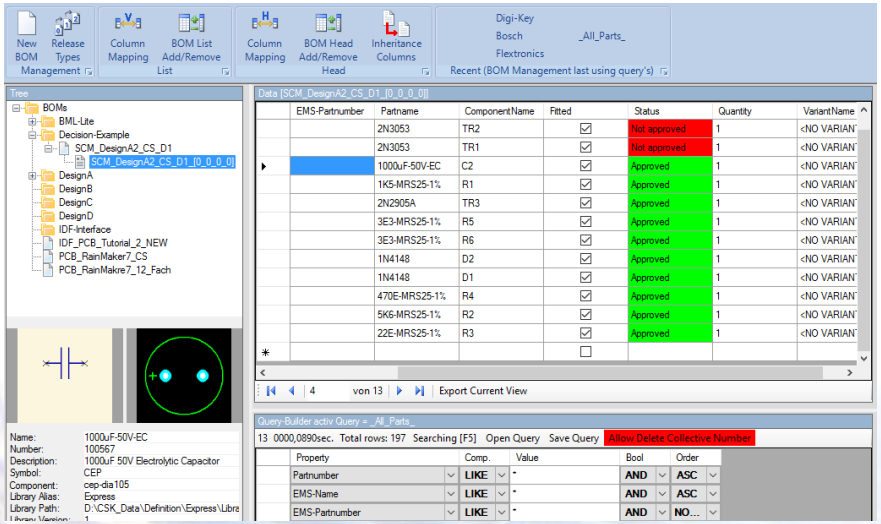


Status Update for Parts

Our task is to create a Decision Constraint to calculate automatic based on the existing date the status of the complete BOM.







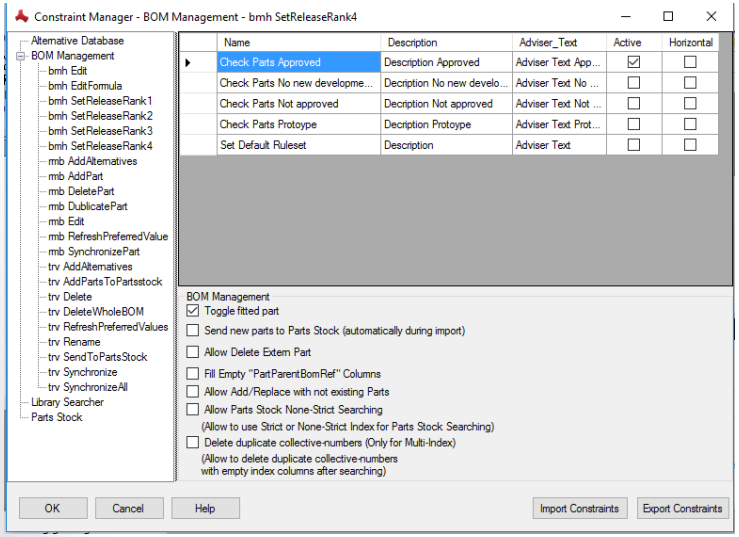
To check out the Decision Constraints we will first setup the status of one component in our BOM to “Not approved”.

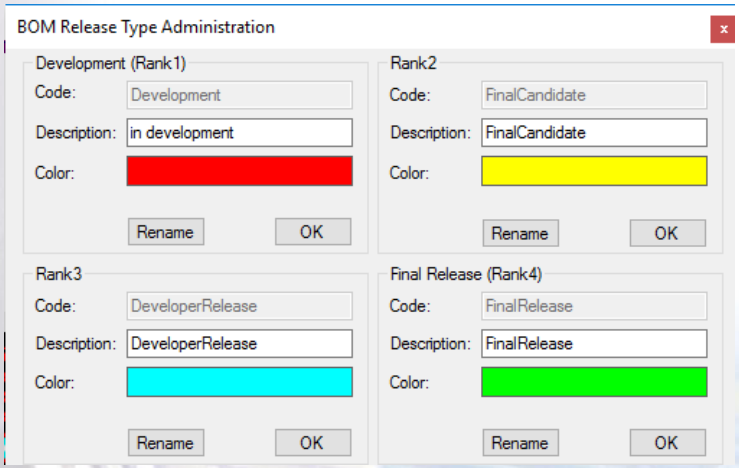
So we have the situation that the result “Not approved” should appear at least once .

After synchronizing the BOM with the Primary PartsStock we have the result of two “Not approved” components in our BOM.

Management of Decision Constraints

In the Decision Constraints control panel there are a lot of internal functions to control the work flow concerning the generation of BOM (based on one or more Decision Constraints).





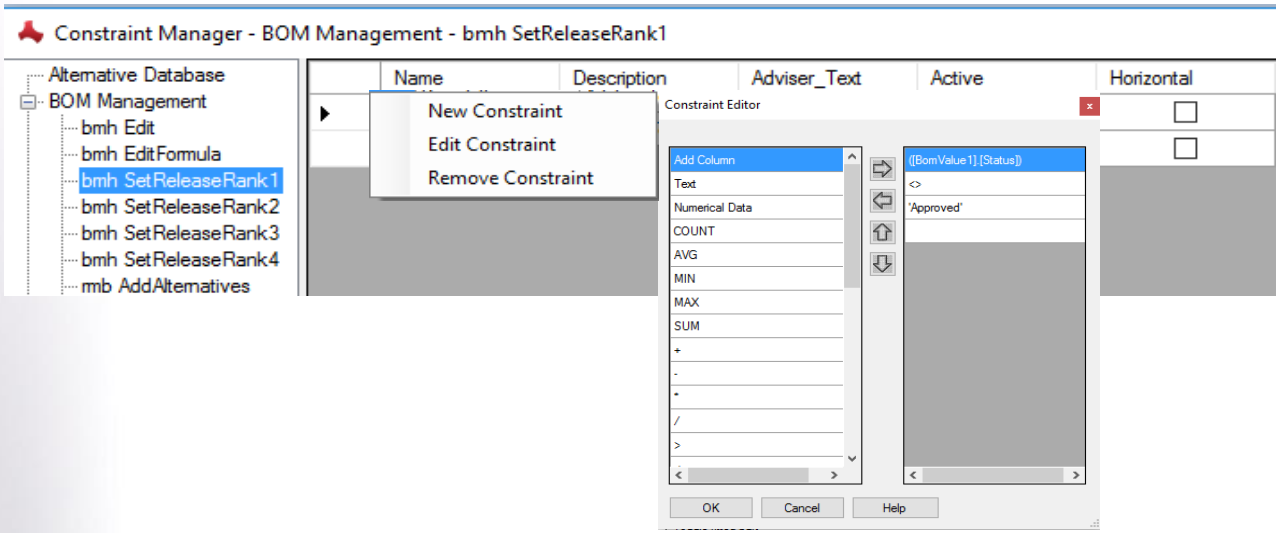
For this example we will just have a look to “Set Release Rank1, 2, 3 and 4”. The meaning of the rank or status depends on the user and the Decision Constraints he generates.

This is the list of the rank.

We will start at rank 1 as indication “Development” with the status “Not approved” and end the “FinalRelease” with the status “Approved”

Creation of Decision Constraints

With the usually Formula Editor the Decision Constraints could be simple clicked together.
For example the “Set Release Rank” function for a complete BOM.

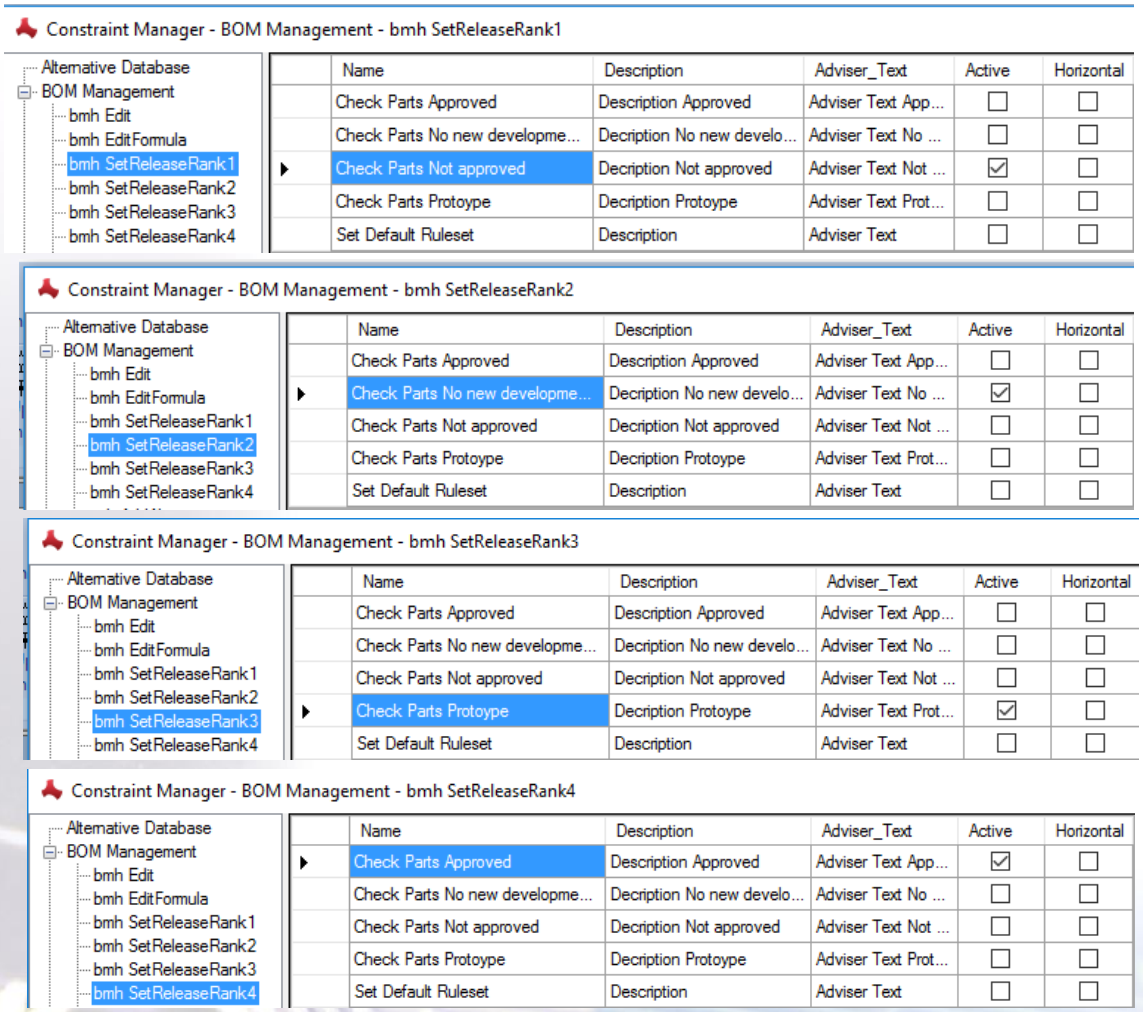


In this case the function should check the column “Status” in the BOM.

If the function find only one Part with the status “Not approved” the whole BOM could no have the Status “Approved”.

If this rule or Decision Constraints is not active, it is possible to set the Status to any Value you want.

Decision Example Constraint Overview



Ranking of BOM Status

1 = Not approved

2 = No new developments

3 = Prototype

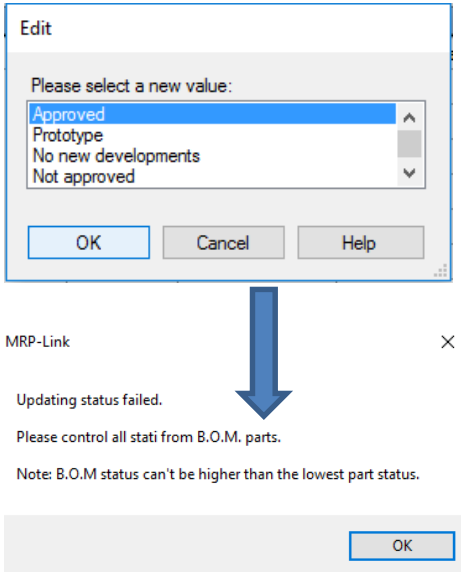
4 = Approved

Controlling with the Decision Constraints

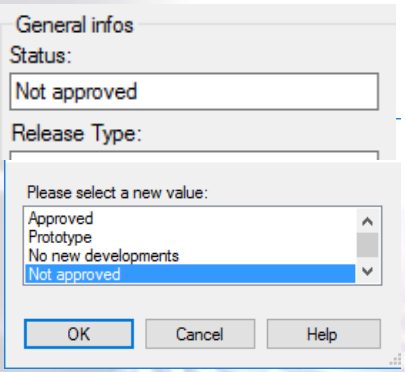
With this Decision Setup it's not possible to increase the status of the complete BOM higher than Prototype. Because this is the lowest status currently.

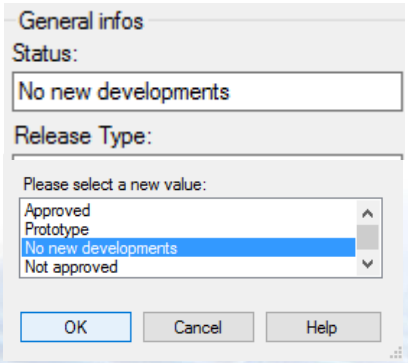
Data [SCM_DesignA2_CS_D1_[0_0_0_0]]

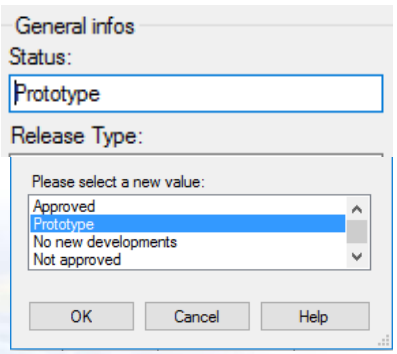
-Partnumber	Partname	ComponentName	Fitted	Status
	2N3053	TR2	☑	Prototype
	2N3053	TR1	☑	Prototype
	1000uF-50V-EC	C2	☑	Approved
	1K5-MRS25-1%	R1	☑	Approved
	2N2905A	TR3	☑	Approved
	3E3-MRS25-1%	R5	☑	Approved
	3E3-MRS25-1%	R6	☑	Approved
	1N4148	D2	☑	Approved
	1N4148	D1	☑	Approved
	470E-MRS25-1%	R4	☑	Approved
	5K6-MRS25-1%	R2	☑	Approved
	22E-MRS25-1%	R3	☑	Approved
			☐	



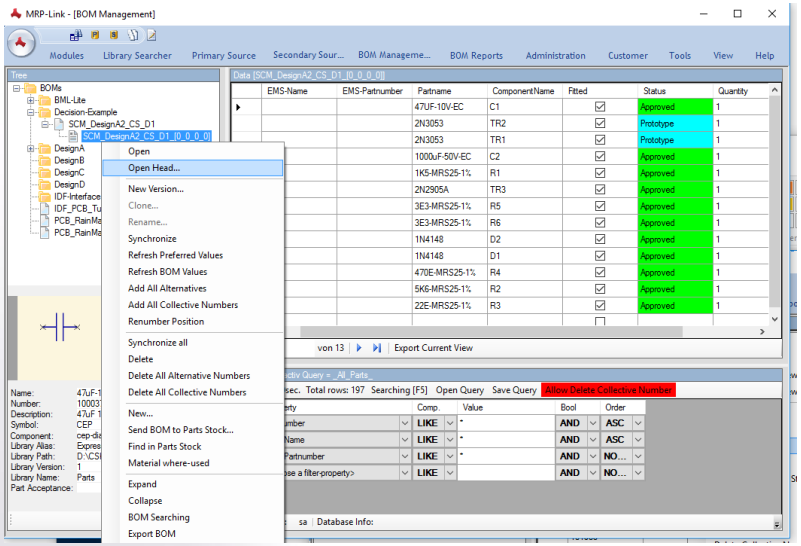
Following status would be possible for the current BOM.

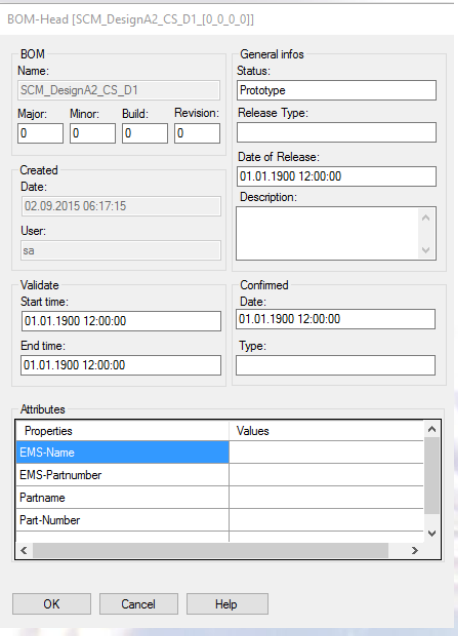






BOM-Head Changes

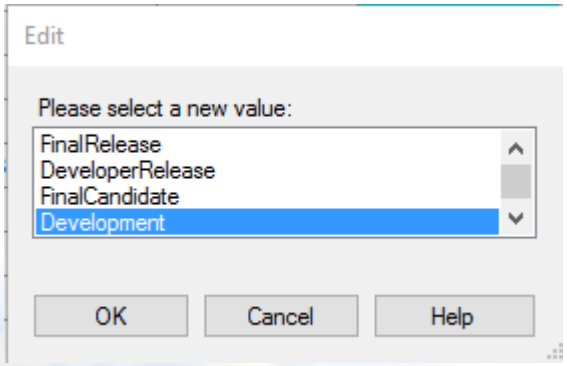




After selecting the BOM-Head, select the Release Type field and use with the RMB Bottom the Edit function for this field.

The content of the Status field is based to all Parts controlled by the Decision Constraints.

Release Type field represent the final information to the following processes which is normally not the lowest Parts Status even when a similar word meets the same.



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Für Rückfragen und weitere Informationen steht Ihnen das CSK Team gerne zur Verfügung.

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