

Rules Based Product Substitution (Down Binning) With CTM (Capable to Match)



Applies to:

SCM 5.1 For more information, visit the [Supply Chain Management homepage](#).

Summary

The CTM planning Tool offers mid level planning and order based planning. Rules based Product Substitution or Down Binning (often found in High Tech Industries) scenarios is used when a product of lower quality can be substituted by higher quality product.

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Author Bio

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Introduction

This white paper explains CTM Down Binning and Rules Based Product Substitution configuration.

In the CTM planning run, the system looks at the available receipts and supplies for the product A replacement stock. Let us say there is a demand for Product B, and there is no stock available for Product B then before creating Planned order (for in house Production) of Product B, system creates substitute order (SNP: Receipt from substitution: EO) for Product A.

Scenario

We have a product KL500 (produced in house) having valid PDS in place. There is a demand (forecast) of KL500 for 7000 pc at VMI location 0000100181. This VMI location is sourced from Plant 1000. There is no stock of KL500 at production Plant 1000. There are 5000 pc available of another product KL600 at Plant 1000. CTM will first create substitute order for 5000 pc of KL600 then CTM will create planned order for balance 2000 pc.

Product View: KL500, Planning Version 000

Product: KL500, FINISHED PROD-PV
 Location: 0000100181, OFFICE DEPOT SOLD TO VMI
 Days' sup. ID: 0.57, Rcpt days ID: 0.57

Elements | Periods | Quantities | Stock | Pegging Overview | Product Master

KL500 in 0000100181 (Make-to-Stock Production)

Avail/ReqD	Avail/ReqT	Category	Receipt/Rqmt. Elemt.	Rec/ReqQty	Conf. Qty.	Available	Surp/short	PP-Firmed	Conv
10/17/2009	23:59:59		SNP Product Horizon						
10/17/2009	23:59:59		PP/DS Horizon						
10/19/2009	12:00:00	FC req.		7,000-	0	7,000-	7,000-		
				0	0	0	0		

Master Data:

We have set up Rules using T code /SAPCND/AO11 - Master Data -> Rule Maintenance -> Create Rule Determination.

Change Rule Base CTM (CTM) : Fast Entry

Valid on: 10/18/2009

Product	Text	Rule
KL500		1KL600CTM
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Rule Maintenance

Profile & parameter | Rules

Overview | Details

Rule | Evaluate Rule

Rule	Description
1KL600CTM	PROD SUBST ON
1MLATPCM10	MLATP COMP 10
1MLATPCM21	MLATP COMP 21
1MLATPCM42	MLATP COMP 42
1MLATPCMNL	MLATP COMP NC
1MLATPCMP	MLATP COMP NC
1MLATPCMP1	MLATP COMP 1 d
1MLATPCMP2	MLATP COMP 2d:
1MLATPCMP3	MLATP COMP 3
1MLATPCMP4	MLATP COMP 4
1MLATPCMP5	MLATP COMP 5
1MLATPCMP7	MLATP COMP 7

Rule: 1KL600CTM

PROD SUBST ONLY

Rule Type: Inclusive

No. Substitutions: 0 No restrictions

Entity No.Subst: Substitution (Location Product)

Direct Delivery Without Consolidation

Consolidation Location:

Deliv. D/T Corr. in Cons.Loc.: No Correlation

Activate Reassignment of Order Confirmations

Product + Loc.Subst | Prod. + Loc. Subst. (InC MD)

Product Substitutn Proced.: 1KL600

The Rule 1KL600CTM has a product substitution procedure 1KL600 assigned to it.

Maintain Product Substitution Procedure

Profile & parameter | Product substitutions

Overview | Details

Product substitution list

Substituti	Ty.	Product proc
1COMP	0	COMPONEN
1KL600	0	KL600

Product	From Date	Time Frm	To Date	Time to	Rea...	Select...
KL500						
KL600		00:00:00		00:00:00		<input type="checkbox"/>

Configuration

Required configuration for CTM

Menu Path: APO-->Supply chain Planning->Multilevel Supply &Demand Matching-> CTM->Make settings for Rules Based

Where CM is the technical scenario and action type.

Determine Rule Strategy - Change

Default Value for Determination of Rule Strategy	
Techn. Operation Type	CM
Bus. Transaction	CTM
Action Type	CM

Determination of Rule Strategy...	
...for Demand Orders	
Techn. Operation Type	CM
Business Transaction	CTM
Op. Type	CM
...for Sales Orders	
Techn. Operation Type	CM
Business Transaction	CTM
Op. Type	CM
...for Dependent Requirements	
Techn. Operation Type	CM
Business Transaction	CTM
Op. Type	CM

Now define Rules Strategy (Procedure) eg. CTM is the strategy and CTM is the condition type, having access sequence CTM.

This access sequence has one condition table 333 (field Product number)

Display IMG

Existing BC Sets BC Sets for Activity Activated BC Sets for Activity

Structure

- ▼ SAP - Implementation Guide
 - ▶ SAP NetWeaver
 - ▶ Cross-Application Components
 - ▶ SCM Basis
 - ▶ Supply Network Collaboration
 - ▼ Advanced Planning and Optimization
 - ▶ Mast. Data
 - ▶ Basis Settings
 - ▶ Supply Chain Cockpit (SCC)
 - ▶ Supply Chain Planning
 - ▶ Transportation Planning and Vehicle Scheduling (TPVS)
 - ▼ Global Available-to-Promise (Global ATP)
 - ▶ General Settings
 - ▶ Transportation and Shipment Scheduling
 - ▶ Product Availability Check
 - ▶ Product Allocation
 - ▼ Rules-Based Availability Check
 - Define Condition Table
 - Maintain Access Sequences
 - Maintain Condition Type
 - Maintain Rule Strategy

Change View "Control Data": Overview

New Entries

Dialog Structure

- ▼ Rule Strategies
 - Control Data

Rule Strategy CTM Rule Base CTM

Control Data

Level	Cnt.	CTyp	Short Text	Cond
1	0	CTM	Rule Base CTM	0

Change View "Accesses": Overview

New Entries

Dialog Structure

- ▼ Access Sequences
 - ▼ Accesses
 - Fields

Access Sequence CTM Rules based for CTM

Access Seq.

AcNo	Ta	Short text	Cond	Exclusive
10	333	Product Number		<input type="checkbox"/>

Assign Rule Strategy to Technical scenario, Business Transaction and Action type.

Change View "Assign Rule Strategy or Rule Strategy Sequence": Details



Tech. Scenario
 Business Trans.
 Action Type

Assign Rule Strategy or Rule Strategy Sequence

Rule Strat.Seq.
 Rule Strategy
 Handling of CP
 Presel. Substns

- In the CTM Profile , enable the Rules

CTM - Capable-to-Match

Product View DS Planning Board SNP Planning Board Product Planning Table

CTM Profile

Planning Run Supply Distribution Planning Scope Strategies Aggregation

PlanningStrategies Special Strategies

Net Change Planning

Execute Net Change Planning

Demands
 Receipts

Substitution

Product Interchangeability
 Rules Rule

Further Strategies

Late Demand Fulfillment Offset Day(s)
 Capacity Planning
 Retain Pegging for Firm Orders
 Store Transport and Prod. Substitution Receipts at Destination Location
 Transport Receipt Elements Individually

There is a demand (forecast) of KL500 for 7000 pc at VMI location 0000100181. There is no stock of KL500 at production Plant 1000. There are 5000 pc available of another product KL600 at Plant 1000..

After the CTM planning run : CTM will first create substitute order for 5000 pc of KL600 then CTM will create planned order for balance 2000 pc

Product View: KL500, Planning Version 000

Product: **KL500** FINISHED PROD-PV
 Location: 1000 Werk Hamburg
 Acct Assignment:
 Days' sup. |D|: 9,999.99 Rcpt days |D|: 9,999.99

Elements | Periods | Quantities | Stock | Pegging Overview | Product Master | ATP

KL500 in 1000 (Make-to-Stock Production)

Avail/ReqD	Avail/ReqT	Category	Receipt/Rqmt. Elemt.	Rec/ReqQty	Conf. Qty.	Available	Surp/short	PP-Firmed	Conv. Ind.
10/17/2009	23:59:59		SNP Product Horizon						
10/19/2009	12:00:00	SNPSubRcpt	172042/1/1	5,000	0	5,000	0	<input type="checkbox"/>	
10/19/2009	12:00:00	SNP:VMI-SO	172040/1/1	5,000-	0	0	0	<input type="checkbox"/>	
10/20/2009	00:00:00	SNP:PL-ORD	172039/1	2,000	0	2,000	0	<input type="checkbox"/>	<input type="checkbox"/>
10/20/2009	12:00:00	SNP:VMI-SO	172041/1/1	2,000-	0	0	0	<input type="checkbox"/>	
11/26/2009	23:59:59		PP/DS Horizon						

Product View: KL600, Planning Version 000

Product: **KL600** FINISHED PROD-PV
 Location: 1000 Werk Hamburg
 Acct Assignment:
 Days' sup. |D|: 9,999.99 Rcpt days |D|: 9,999.99

Elements | Periods | Quantities | Stock | Pegging Overview | Product Master | ATP

KL600 in 1000 (Make-to-Stock Production)

Avail/ReqD	Avail/ReqT	Category	Receipt/Rqmt. Elemt.	Rec/ReqQty	Conf. Qty.	Available	Surp/short	PP-Firm
10/18/2009	21:59:58	Stock	/0001/CC	5,000	5,000	5,000	0	
10/17/2009	23:59:59		SNP Product Horizon					
10/19/2009	12:00:00	SNP:ReqSub	172042/1/1	5,000-	0	0	0	<input type="checkbox"/>
12/06/2009	23:59:59		PP/DS Horizon					

Results after CTM planning run at VMI location.

Product View: KL500, Planning Version 000

Product: FINISHED PROD-PV

Location: OFFICE DEPOT SOLD TO VMI

Acct Assignment:

Days' sup. |D|: Rcpt days |D|:

Elements
Periods
Quantities
Stock
Pegging Overview
Product Master

KL500 in 0000100181 (Make-to-Stock Production)

Avail/ReqD	Avail/ReqT	Category	Receipt/Rqmt. Elemt.	Rec/ReqQty	Conf. Qty.	Available	Surp/short	PP-Firmed	Conv. Ind.
10/17/2009	23:59:59		SNP Product Horizon						
10/17/2009	23:59:59		PP/DS Horizon						
10/19/2009	12:00:00	PurRqs	172040/1/1	5,000	0	5,000	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10/19/2009	12:00:00	FC req.		7,000	0	2,000	0	<input type="checkbox"/>	<input type="checkbox"/>
10/20/2009	12:00:00	PurRqs	172041/1/1	2,000	0	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Related Content

http://help.sap.com/saphelp_scm41/helpdata/en/ab/2274394218984fe10000000a11402f/content.htm

http://help.sap.com/saphelp_scm50/helpdata/en/f4/b877377fae0261e10000009b38f842/content.htm

<https://wiki.sdn.sap.com/wiki/display/SCM/Rules-Based%20ATP%20Check>

For more information, visit the [Supply Chain Management homepage](#).

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