

SNP: Deployment and Transportation Load Builder scenario 2 – Push Rule by Quota



Applies to:

Supply Network Planning – Deployment and Transport Load Builder. For more information, visit the [Supply Chain Management homepage](#).

Summary

This document is the 2nd document in continuation of the series describing the Concepts and Scenario of Supply Network Planning's Deployment and Transport load builder.

After the Goods are manufactured or ready to be supplied to the Distribution centers/Customers/VMI we can use the Deployment and Transport load builder functionalities to supply the finished goods to the Distribution centers/Customer Location and Vendor managed Inventory based on respective demand at the DCs and Locations.

There are various Fair Share Rules and Pull/Push rules that will be used to Deploy. In this document Push Rule by Quota –Q is demonstrated with its scenario.

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Author Bio

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Deepak Aparanji has over 13 years of experience in Supply Chain Management and Project execution. He is a team-oriented Principal Consultant with 9 plus years of experience in SAP (MM, PP, QM, SNP, PS, and APO-DP). He was involved in multiple SAP implementation projects, SAP Upgrades and SAP support projects. He has delivered many projects in Chemical, Steel, Hi-tech, Media industries.

Table of Contents

Introduction to Deployment and TLB	3
Deployment	3
Deployment Master Data:	4
Transport Load Builder	5
Factors considered in TLB run:	5
TLB Master Data	6
TLB Profile:	6
Scenario	7
Brief Description of the Deployment Scenario	7
Material master settings in SNP	7
Brief Description of the Transportation Load Builder (TLB) Scenario:	10
TLB – Interactive Planning	10
Related Content	13
Disclaimer and Liability Notice	14

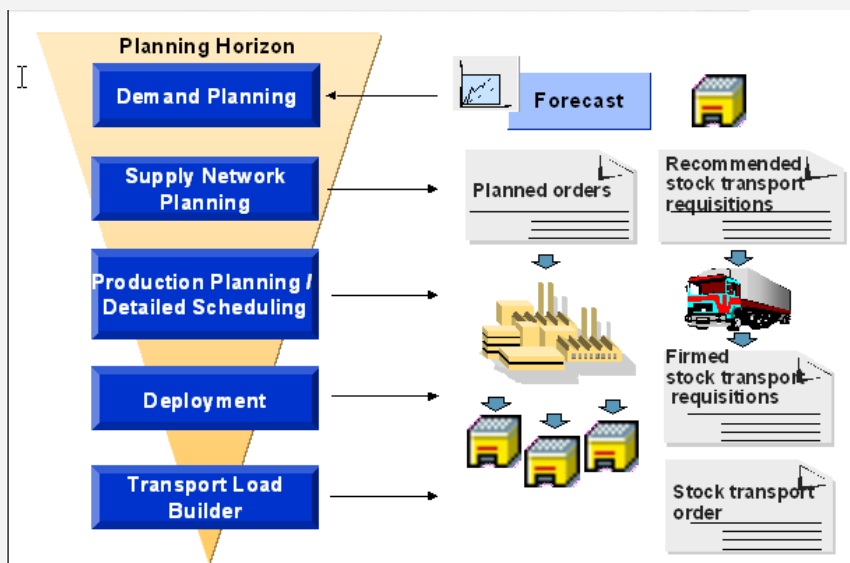
Introduction to Deployment and TLB

Deployment

Deployment is the process which determines what demands can be met with the existing supplies both for the In-house produced and Externally Procured. In other words Deployment functionality determines how and when the Inventory should be deployed to the Distribution centers, Customers or Vendor Managed Inventory locations.

- Deployment uses various Strategies like Fair share, Push, Pull-Push and minimum cost flow optimization. And these are maintained in the Deployment profiles
- When the Demand is less than the Supply – the Deployment applies Push and calculates the plan for the deployment.

Note: In this document we will demonstrate Fair share rule by Quota arrangements (Deployment – Heuristic) and subsequent TLB scenario



Pull

- All demand within the pull deployment horizon is met through deployment
- Distribution occurs accordingly to the due date specified at the demand location
- No supply is distributed to the demand source in advance of the demand date

Push

- All supply is distributed immediately to the demand locations for the planning horizon

Pull/Push

- All supply is distributed immediately to the demand locations to meet all demand within the pull deployment horizon

Push by Quota Arrangement

- System uses the demand dependant quota arrangements assigned to the transportation lanes to distribute supply

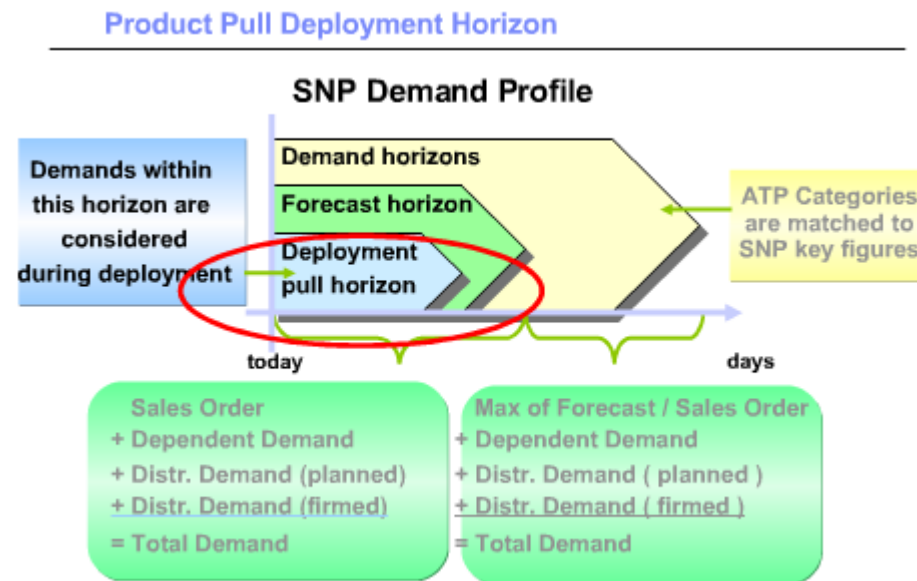
Push considering the Safety Stock Horizon

- Safety stock at the source location is used to fulfill only the demands within the corresponding safety stock horizon, and not other demands beyond this horizon

Deployment Master Data:

Pull Deployment Horizon:

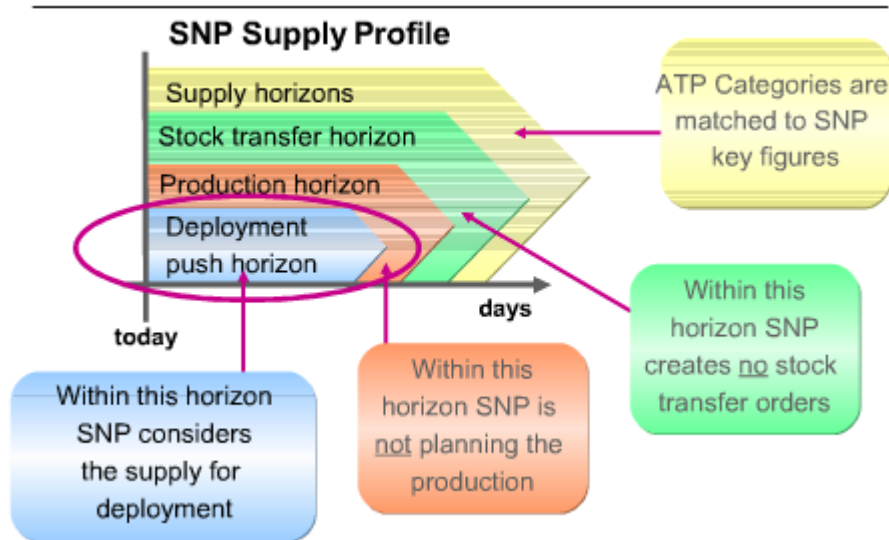
Period of time over which deployment considers the planned distribution demand. The horizon starts from today's date.



Product Push Deployment Horizon:

Period of time over which deployment considers receipts that were defined in the ATD Receipt category group of location master data. The horizon starts from today's date.

Product Push Deployment Horizon



Transport Load Builder

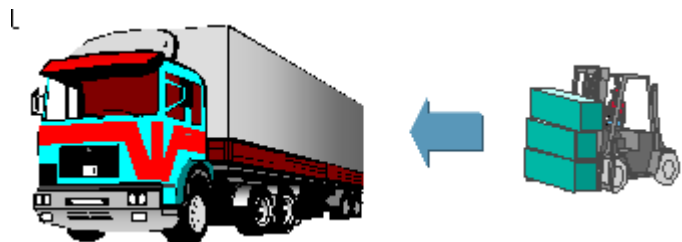
The primary purpose of the Transport Load Builder (TLB) is to use the results of the deployment run (single product transport recommendations) to create multi-product transport orders in a time period for a transportation zone.

It should be ensured that:

- The transportation methods are filled to maximum capacity
- No transportation method is dispatched that is not filled to minimum capacity
- For stock transport orders that could not be satisfied during the TLB run due to specified constraints, you can build transport orders manually

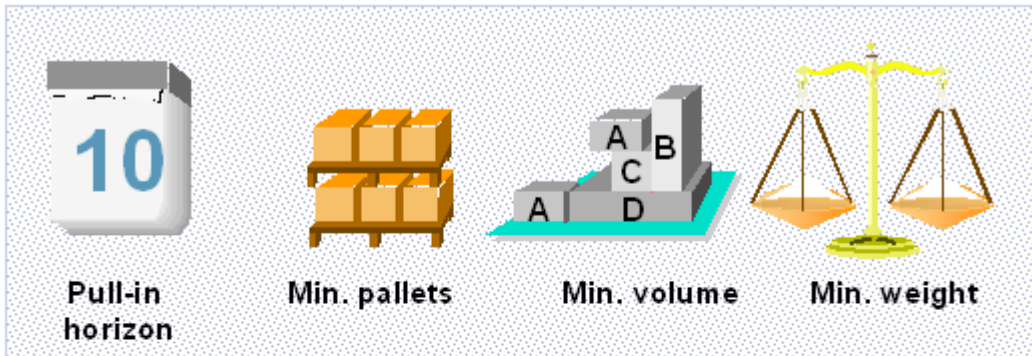
Factors considered in TLB run:

- Maximum range of coverage
- Minimum/Maximum load weight
- Maximum volume
- ATP check



TLB Master Data

TLB Profile:



- SNP only plans the capacity of an entire transport fleet. The TLB looks first at individual transportation methods.
- The minimum values for capacity (cubic volume and weight) and pallets to build a load and the maximum amount of product per load are defined in the TLB profile. The system checks the planned transport orders against the minimum and maximum values.
- The system uses the parameters defined in the TLB profile to calculate the transport orders. The transport orders are always multiples of the rounding value defined in the lot size profile.
- The TLB uses the lane-dependent lot size profile to determine how to build transport loads based on the available transport orders.

Parameter for TLB Profile: SNP_TLB_01

Rule Cntr	Parameter	Oper. LL	Param.Val.	Oper. UL	Param.Val.	UoM
1	WEIGHT	>	1	<=	1,200	EA

Scenario

Brief Description of the Deployment Scenario

Product is produced in 3200 manufacturing plant to meet the demand in its distribution centers 3400 and 3800. However, due to excess stock, there is sufficient supply to meet the demand. Deployment determines a Push rule Q-Quota to determine the stock that can be deployed. As per the settings Quota of 60 percent at 3400 and 40 percent at 3800 is maintained.

Material master settings in SNP

Change Product P-1234567890 for Location 3200

Change Product P-1234567890 for Location 3200

Product: P-1234567890 Base Unit: EA
 Prod. Descript.: FINISHED PRODUCT - Push By Quota
 Location: 3200 Atlanta

SNP 1 SNP 2 Demand Lot Size PP/DS Procurement GR/GI

<p>Procurement</p> <p>Procurement Type: F Planned Deliv. Time: Days</p> <p>Stock</p> <p>1,000 EA ABC Indicator: </p>	<p>Procurement Costs</p> <p>Cost Function: <input type="text"/> Procurement Costs: <input type="text"/></p> <p>Stock Costs</p> <p>Prod. Storage Costs: <input type="text"/> Day Safety Stock Penalty: <input type="text"/> Day</p>
--	--

Product: P-1234567890 Base Unit: EA
 Prod. Descript.: FINISHED PRODUCT - Push By Quota
 Location: 3200 Atlanta

SNP 1 SNP 2 Demand Lot Size PP/DS Procurement GR/GI

<p>SNP Demand Profile</p> <p>Demand Profile: <input type="text"/> Forecast Horizn: <input type="text"/> Pull Depl. Hor.: 20 Period Split: <input type="text"/> VMI Promo.LTime: <input type="text"/> <input type="checkbox"/> Feast Horizn in Past</p>	<p>SNP Supply Profile</p> <p>Supply Profile: <input type="text"/> SNP Prod. Hor.: <input type="text"/> Extnd SNP Prod. Hor.: <input type="text"/> SNP Stk Trn.Hor.: <input type="text"/> Push Depl. Hor.: 20 Depl. SS Push H: <input type="text"/> <input type="checkbox"/> Fix Production <input type="checkbox"/> Fix Stock Transfrs</p>	<p>SNP Deployment Profile</p> <p>Deplmnt Profile: <input type="text"/> Push Distributn: Q Fair Share Rule: <input type="text"/></p> <p>Indicator: Push Distribution (1) 6 Entries found</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Push Distributi...</th> <th>Short Descript.</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>Pull</td> </tr> <tr> <td>X</td> <td>Pull/Push</td> </tr> <tr> <td>X</td> <td>Push by demands</td> </tr> <tr style="background-color: yellow;"> <td>Q</td> <td>Push by quota arrangement</td> </tr> <tr> <td>S</td> <td>Push taking the safety stock horizon into account</td> </tr> <tr> <td>U</td> <td>User-defined distribution</td> </tr> </tbody> </table>	Push Distributi...	Short Descript.	P	Pull	X	Pull/Push	X	Push by demands	Q	Push by quota arrangement	S	Push taking the safety stock horizon into account	U	User-defined distribution
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U	User-defined distribution															

Material needs to be maintained for Transportation lane 3200 to 3400 and 3200 to 3800

Change of Transportation Lane 3200 -> 3400

Product-Specific Transportation Lane

Product	Product Short Description	Start date	End Date	Min. LS	Maximum Lot Size	Proc.Prio.	Dist.Prio.	Proc.Costs	Cost Func.	Sub
OPT_FIN_11	OPTIMIZER Material 11	10/05/2008	12/31/9999	100.000	100.000	0.00	0.00	0.00		
OPT_FIN_2	OPTIMIZER Material 2	10/03/2008	12/31/9999	100.000	100.000	0.00	0.00	0.00		
OPT_FIN_22	OPTIMIZER Material 22	10/05/2008	12/31/9999	100.000	100.000	0.00	0.00	0.00		
P-1234567890	FINISHED PRODUCT - Push By Quota	12/13/2008	12/31/9999	0.000	0.000	0.00	0.00	0.00		
V2R_SNP_DEPLOY1	Material-1 for Fairshare Rule A	11/18/2008	12/12/9999	0.000	0.000	0.00	0.00	0.00		

Means of Transport

MTr	Mns/Transp	Start date	End Date	All Prods	Aggr. Ping	DetId Ping	Trsp. Cal.	Fix Duratr	Trsp. Dur	Ret.Period	Fix Dist.	Trsp. Dist.	Unit	Precision	Trs
0001	Truck	09/05/2008	09/19/2008	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9ASNP	<input type="checkbox"/>			<input type="checkbox"/>	3,519.088	KM		
0001	Truck	11/22/2008	01/04/2009	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9ASNP	<input type="checkbox"/>			<input type="checkbox"/>	3,519.088	KM		
FTL TRUCK	FTL TRUCK	09/24/2008	12/31/9999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9ASNP	<input type="checkbox"/>	28:00		<input type="checkbox"/>	3,519.088	KM	1000	

Change of Transportation Lane 3200 -> 3400

Product-Specific Transportation Lane

Product	Product Short Description	Start date	End Date	Min. LS	Maxin
OPT_FIN_2	OPTIMIZER Material 2	10/03/2008	12/31/9999	100.000	
OPT_FIN_22	OPTIMIZER Material 22	10/05/2008	12/31/9999	100.000	
P-1234567890	FINISHED PRODUCT - Push By Quota	12/13/2008	12/31/9999	0.000	
V2R_SNP_DEPLOY1	Material-1 for Fairshare Rule A	11/18/2008	12/12/9999	0.000	
V2R_SNP_DEPLOY2	Material-1 for Fairshare Rule B	11/18/2008	12/12/9999	0.000	

Means of Transport

MTr	Mns/Transp	Start date	End Date	All Prods	Aggr. Ping	DetId Ping	Trsp. Cal.	Fix Duratr	Trsp
0001	Truck	09/05/2008	09/19/2008	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9ASNP	<input type="checkbox"/>	
0001	Truck	11/22/2008	01/04/2009	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9ASNP	<input type="checkbox"/>	
FTL TRUCK	FTL TRUCK	09/24/2008	12/31/9999	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9ASNP	<input type="checkbox"/>	

Product Procurement

Product: P-1234567890
FINISHED PRODUCT - Push By Quo

Validity

Start Date: 12/13/2008
End Date: 12/31/9999

Parameters

Block Indicator: Available

Quota arrangement rules maintained for Location 3200 (Manufacturing plant) with 60 percent to DC 3400 and 40 percent to DC 3800

Display Outbound Quota Arrangements - Location 3200

Quota Arr. Headers

Product	Product Short Description	Start date	End Date	Reqd Grpng	Req. Split	Min. Qty R
DEPLOY_TEST_KM	Material for Deploy and TL	11/23/2008	02/08/2009		<input type="checkbox"/>	
DEPLOY1	Deployment FIN 1	11/06/2008	12/31/9999		<input type="checkbox"/>	
DEPLOY4	Deployment FIN 4	11/07/2008	12/31/9999		<input type="checkbox"/>	
DEPLOY6	Deployment FIN 6	11/10/2008	02/08/2009		<input type="checkbox"/>	
H-1234567890	FINISHED PRODUCT - Re	11/29/2008	02/08/2009		<input type="checkbox"/>	
H-2345678901	FERT - Ready to Deploy-F	12/04/2008	12/31/9999		<input type="checkbox"/>	
P-1234567890	FINISHED PRODUCT - Pu	12/13/2008	12/31/9999		<input type="checkbox"/>	
V2R_SNP_DEPLOY3	Material-1 for Fairshare Ru	11/18/2008	02/08/2009		<input type="checkbox"/>	
V2R_SNP_DEPLOY6	Material-1 for Push By Quo	11/18/2008	02/08/2009		<input type="checkbox"/>	

Quota Arr. Item For Product P-1234567890

Product	Start date	End Date	Ty.	Partner Location	Quota A.	Heuristic	Alloc. qty.	Quota Base Quantity	Uom
P-123456	12/13/2008	12/31/9999	L	LOK 3400	60.00				
P-123456	12/13/2008	12/31/9999	L	LOK 3800	40.00				

Quota Arrangement Header

Product: P-1234567890
FINISHED PRODUCT - Pus

Validity Period

Start Date: 12/13/2008
End Date: 12/31/9999

Parameters

Allow Reqmt Splitting:

Rqmts Grouping:

Min. Split Quantity: 0.000

There is a total demand of 200 qty at DC 3400 and 300 qty at 3800 and the Stock of 1000 qty at the Manufacturing Plant 3200. The Supply is much more than the Demand hence Push rule by quota which is maintained will determine how much can be deployed at DCs 3400 and 3800.

On running Location Heuristic at Distribution centers 3400 and 3800 the demand

In both the cases we see a Stock transport Requisition is created for the quantity based on the Demand at each DCs.

Planning Book: [Live] SNP INTERACTIVE PLANNING / SNP PLAN

APO Location: 3400 | APO Product: P-1234567890

Unit	12/14/2008	12/15/2008	12/16/2008	12/17/2008	12/18/2008	12/19/2008	12/20/2008
Forecast	EA						
Sales Order	EA	200					
Distribution Demand (Planned)	EA						
Distribution Demand (Confirmed)	EA						
DistrDemand (TLB-Confirmed)	EA						
Dependent Demand	EA						
Total Demand	EA	200					
Distribution Receipt (Planned)	EA	200					
Distribution Receipt (Confirmed)	EA						
Distribution Receipt (TLB-Confirmed)	EA						

Order ItemNo.	Avail/ReqD	Avail/ReqT	Rec/ReqQty	BUn	Category	Category Description	Product	Source	Destination
8644	000010	12/15/2008	12:00:00	200	EA	AG	Purchase Requisition	P-1234567890	3200 3400

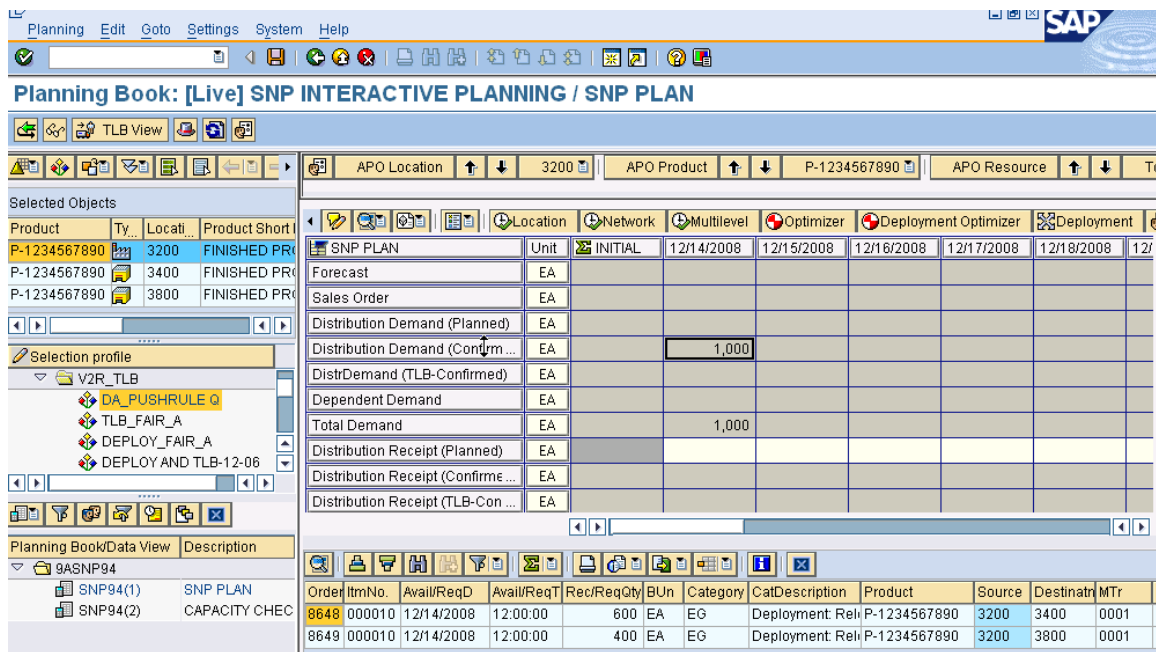
Planning Book: [Live] SNP INTERACTIVE PLANNING / SNP PLAN

APO Location: 3800 | APO Product: P-1234567890

Unit	12/14/2008	12/15/2008	12/16/2008	12/17/2008	12/18/2008	12/19/2008	12/20/2008
Forecast	EA						
Sales Order	EA	300					
Distribution Demand (Planned)	EA						
Distribution Demand (Confirmed)	EA						
DistrDemand (TLB-Confirmed)	EA						
Dependent Demand	EA						
Total Demand	EA	300					
Distribution Receipt (Planned)	EA	300					
Distribution Receipt (Confirmed)	EA						
Distribution Receipt (TLB-Confirmed)	EA						

Order ItemNo.	Avail/ReqD	Avail/ReqT	Rec/ReqQty	BUn	Category	Category Description	Product	Source	Destination
8645	000010	12/15/2008	12:00:00	300	EA	AG	Purchase Requisition	P-1234567890	3200 3800

Run Deployment at manufacturing plant 3200- Based on the quota arrangement 600 units were deployed to DC 3400 and 400 units were deployed to DC 3800 consuming all the stock from Manufacturing Location 3200





Brief Description of the Transportation Load Builder (TLB) Scenario:

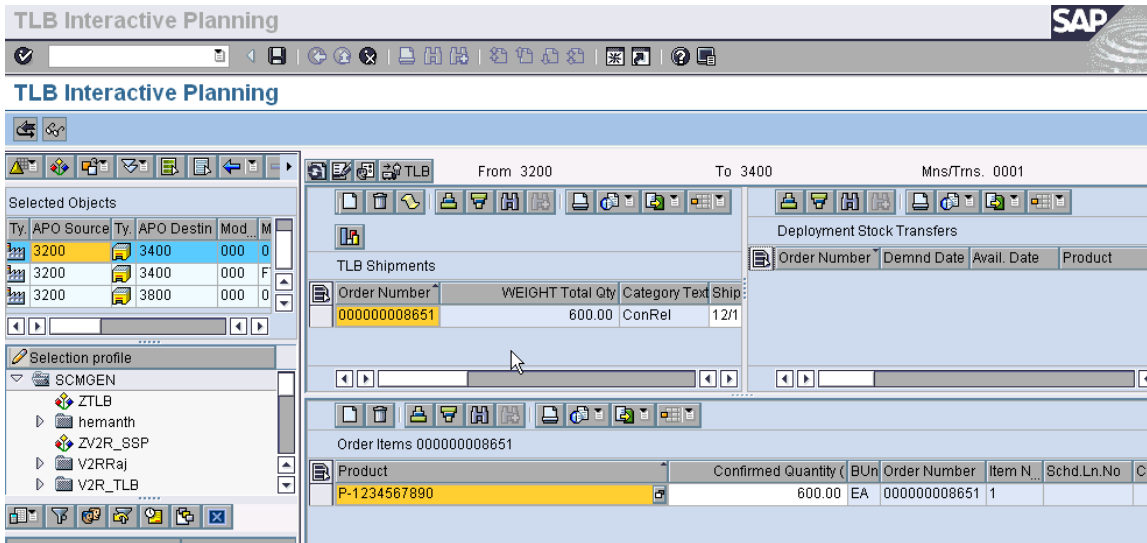
After the deployment run, the transportation planner needs to group the different orders going from manufacturing plants to distribution centers. The orders must be grouped to meet the minimum requirement by weight, volume and number of pallets to ensure that transportation vehicles are filled to maximum capacity.

TLB – Interactive Planning

- Deployment run results in recommended transport orders.
- Transport Load Builder then enables you to manipulate the recommended transport orders within the time period you specify to build a feasible, consolidated transport load.
- Interactive planning displays the relevant values such as cumulative volume, cumulative weight, and capacity consumed so that you can determine when a load is complete.
- TLB Interactive planning desktop is similar to the other interactive planning desktops in SNP.
- The profile selection, planning books/data view, and macros are on the far left side of the screen
- Work is displayed on the right side with three sub area
 - TLB-confirmed shipments appear on the left hand side of the work area.
 - Transport recommendations appear on the right side of the work area
 - Transport order items appear on the bottom half of the work area

After executing TLB between Manufacturing plant 3200 and 3400- Stock transport Order of qty



Click on Change icon  (Ctrl+F2) and run TLB  TLB

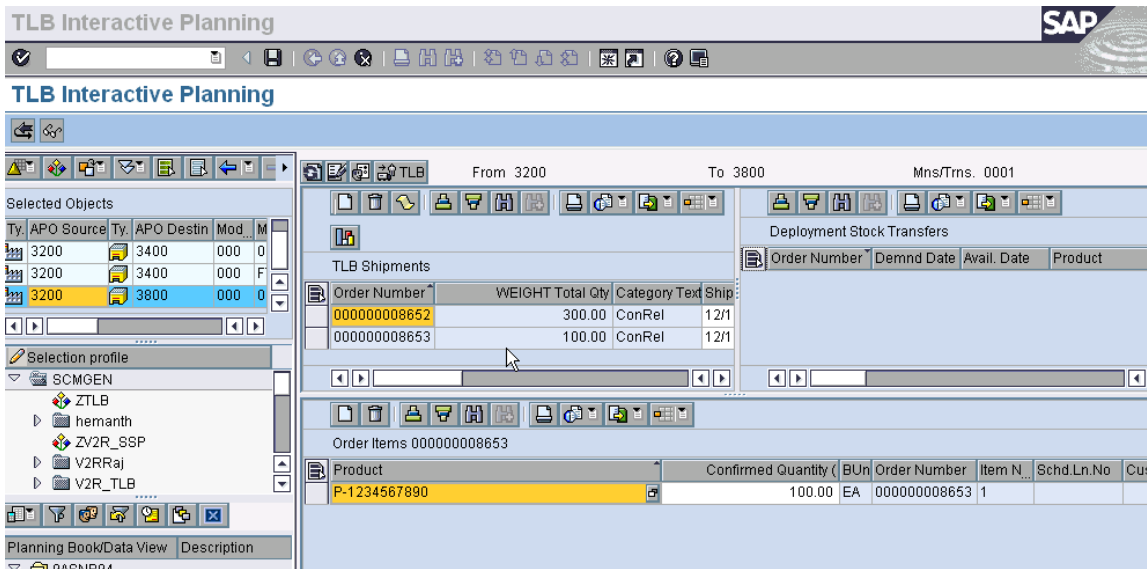


The screenshot shows the SAP TLB Interactive Planning interface. The top bar indicates the transaction is 'TLB Interactive Planning' with the SAP logo. The main window title is 'TLB Interactive Planning'. The interface is divided into several sections:

- Selected Objects:** A table with columns Ty, APO Source, Ty, APO Destin, Mod., and M. It shows three rows: 3200 to 3400 (Mod. 000, M 0), 3200 to 3400 (Mod. 000, M F), and 3200 to 3800 (Mod. 000, M 0).
- Selection profile:** A tree view under 'SCMGEN' containing 'ZTLB', 'hemanth', 'ZV2R_SSP', 'V2RRaj', and 'V2R_TLB'.
- TLB Shipment:** A table with columns Order Number, WEIGHT Total Qty, Category Text, and Ship. It shows one row: Order Number 000000008651, WEIGHT Total Qty 600.00, Category Text ConRel, and Ship 12/1.
- Order Items:** A table with columns Product, Confirmed Quantity, BU, Order Number, Item N., and Sched.Ln.No. It shows one row: Product P-1234567890, Confirmed Quantity 600.00, BU EA, Order Number 000000008651, and Item N. 1.

After executing TLB between Manufacturing plant 3200 and 3400- Stock transport Order of qty

Click on Change icon  (Ctrl+F2) and run TLB  TLB



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- Selection profile:** A tree view under 'SCMGEN' containing 'ZTLB', 'hemanth', 'ZV2R_SSP', 'V2RRaj', and 'V2R_TLB'.
- TLB Shipments:** A table with columns Order Number, WEIGHT Total Qty, Category Text, and Ship. It shows two rows: Order Number 000000008652 (WEIGHT Total Qty 300.00, Category Text ConRel, Ship 12/1) and Order Number 000000008653 (WEIGHT Total Qty 100.00, Category Text ConRel, Ship 12/1).
- Order Items:** A table with columns Product, Confirmed Quantity, BU, Order Number, Item N., and Sched.Ln.No. It shows one row: Product P-1234567890, Confirmed Quantity 100.00, BU EA, Order Number 000000008653, and Item N. 1.

Go back to SNP Interactive planning and refresh the screen. You can see 3 orders 8651 – 600 ea and 8652 – 300 ea and 8653 for qty 100 created and TLB Confirmed.

Planning Book: [Live] SNP INTERACTIVE PLANNING / SNP PLAN SAP

Planning Book: [Live] SNP INTERACTIVE PLANNING / SNP PLAN

TLB View

APO Location: 3200 | APO Product: P-1234567890 | APO Resource: To

Selected Objects

Product	Ty	Locati	Product St
P-1234567890		3200	FINISHED
P-1234567890		3400	FINISHED
P-1234567890		3800	FINISHED

Selection profile

- V2R_TLB
 - DA_PUSHRULE Q
 - TLB_FAIR_A
 - DEPLOY_FAIR_A
 - DEPLOY AND TLB-12-06

Planning Book/Data View Description

- 9ASNP94
 - SNP94(1) SNP PLAN
 - SNP94(2) CAPACITY CHECK

SNP PLAN	Unit	INITIAL	12/16/2008	12/17/2008	12/18/2008	12/19/2008	12/20/2008	12/21/2008
Forecast	EA							
Sales Order	EA							
Distribution Demand (Planned)	EA							
Distribution Demand (Confirmed)	EA							
DistrDemand (TLB-Confirmed)	EA	1,000						
Dependent Demand	EA							
Total Demand	EA	1,000						
Distribution Receipt (Planned)	EA							
Distribution Receipt (Confirmed)	EA							
Distribution Receipt (TLB-Confirmed)	EA							

Ord	ItmNo	Schd.Ln.No	Avail/ReqD	Avail/ReqT	Fix	Rec/ReqQty	Origin.Qty	Total Qty	BUN	Category	Category Description	Product
8651	1		12/14/2008	12:00:00	X	600	0	600	EA	BI	Stock transport order	P-1234
8652	1		12/14/2008	12:00:00	X	300	0	300	EA	BI	Stock transport order	P-1234
8653	1		12/14/2008	12:00:00	X	100	0	100	EA	BI	Stock transport order	P-1234

Related Content

For more details please see-

- [SNP Deployment and Transportation Load Builder Scenario-1 Fair Share Rule "C" by Quota Arrangement.](#)
- [Supply Network Planning \(SNP\): Deployment and Transportation Load Builder Scenario 3 - Fair Share Rule - a "Proportional Distribution Based on Demands"](#)
- SAP Help: www.help.sap.com
- [Deployment Help \(SCM 5.0\):](#)
- [TLB Help \(SCM 5.0\):](#)
- For more information, visit the Supply Chain Management homepage: <https://www.sdn.sap.com/irj/sdn/bpx-scm>

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