



ATP: A Comparison Between mySAP ERP's ATP and APO's Global ATP

Patti Kimler

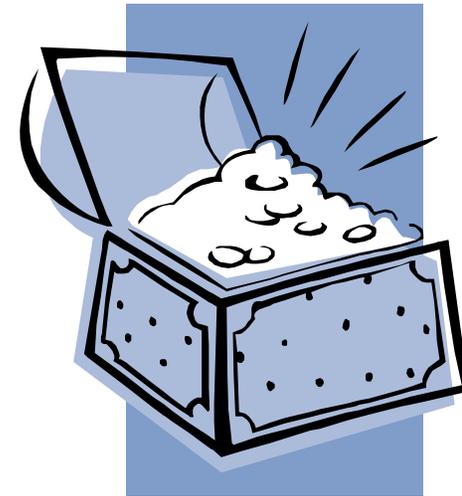
Product Manager

SAP Labs, LLC

(with thanks to Ram Halady for input)

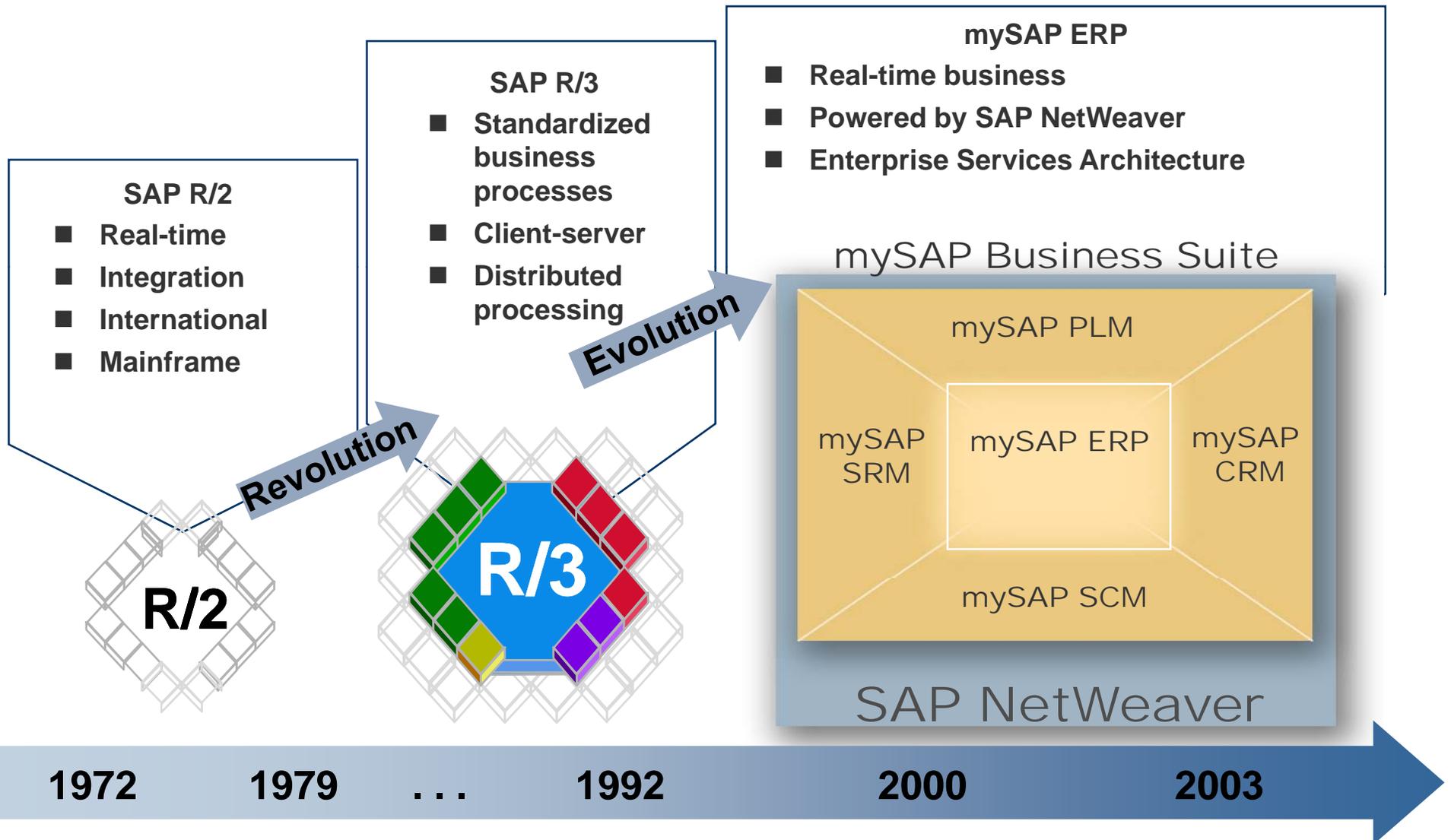
What We'll Cover Today

- Why ATP?
- ERP*'s ATP
- APO's ATP
- Side by Side
- What will come in the future?



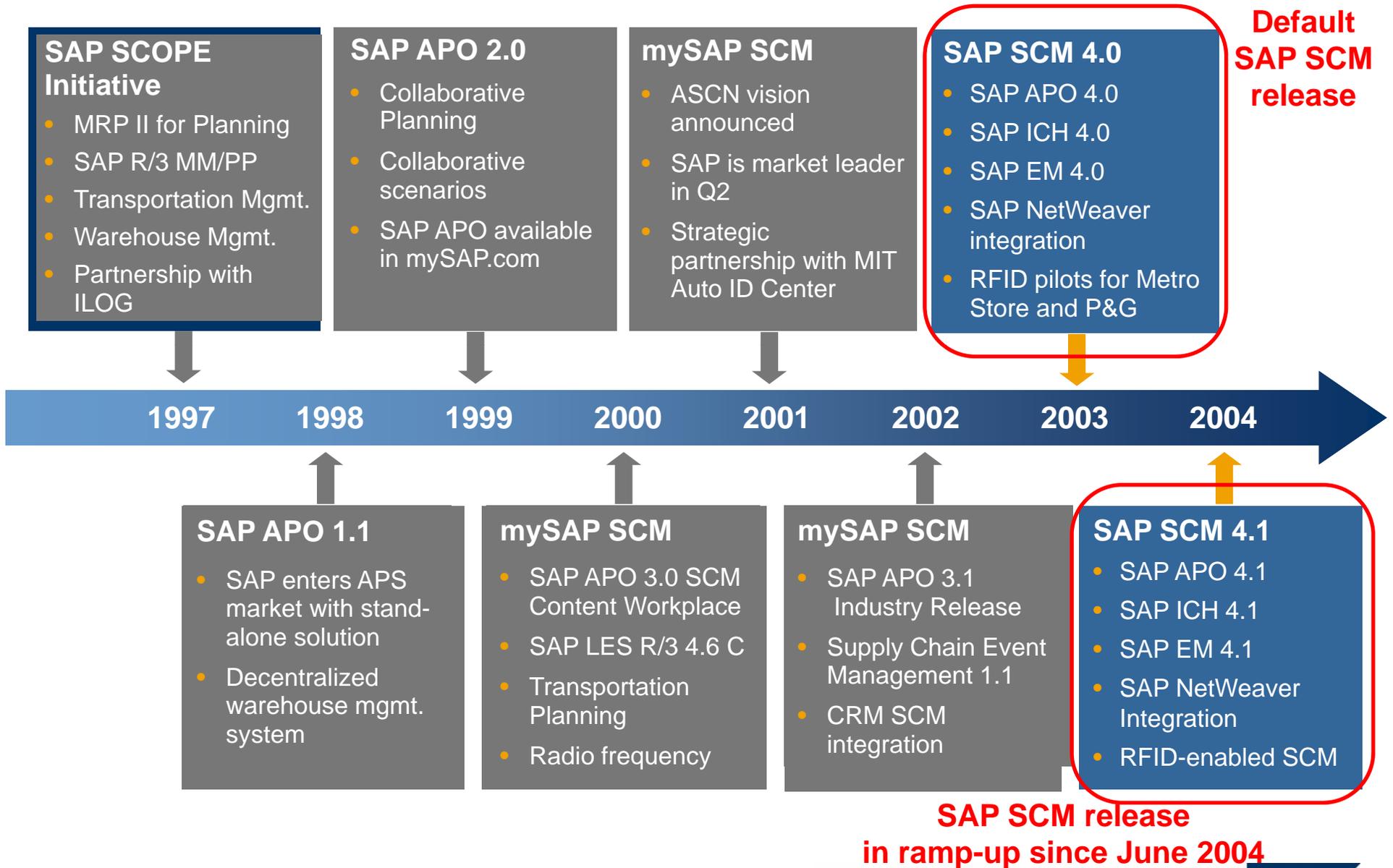
*** Please note that in this presentation I use “ERP” to mean anything from R/3 4.0b up to and including present releases of mySAP ERP.**

mySAP ERP and mySAP Business Suite

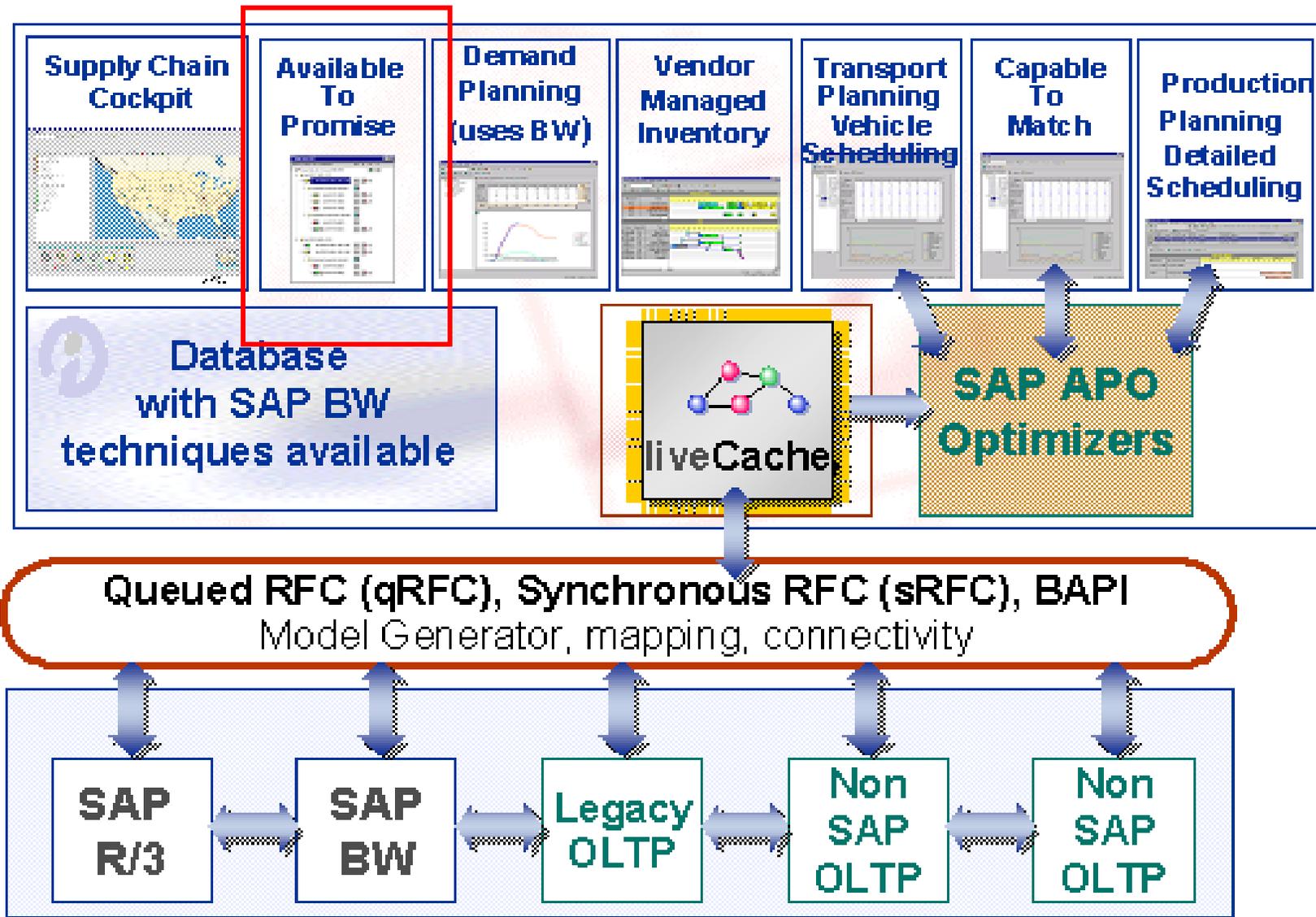


- **SAP Advanced Planning and Optimization**
(SAP APO 4.1)
 - **SAP Inventory Collaboration Hub**
(SAP ICH 4.1)
 - **SAP Event Management**
(SAP EM 4.1)
-
- **SAP NetWeaver (Web AS, BW, ...)**
(SAP NetWeaver '04)

Evolution of SAP SCM Functionality



Global ATP - The Technical Perspective



What We'll Cover Today

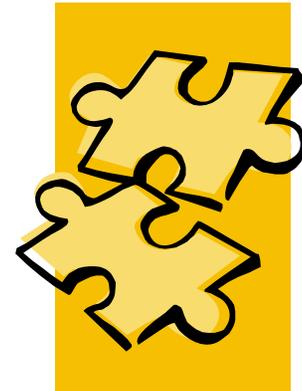
- Why ATP?

- ERP's ATP

- APO's ATP

- Side by Side

- What will come in the future?



ATP: It's Not For Everybody

■ Some industries don't think they need ATP

- Consumer Products companies sometimes wait until the delivery and rely on their forecast.

■ If you know the product's not going to be available when the ATP check is done, but it will by the time you need to ship it.

- Hint: You can ATP check your forecast

■ If everything you sell is make-to-order

- Hint: You can trigger production from a sales order with APO's gATP

■ If you tried it for a while, but it could never find the product you knew was there.

- Hint: This sounds like a consulting issue (consultant issue?).

What Will it do for Me?

- **Prevent over-commitment**
- **Manage backorders**
- **Let you search in multiple locations (gATP)**
- **Automate a manual process**
- **Reduce the amount of time it takes to process an order**
- **Give you visibility of your sales commitments for every material you ATP check, regardless of the results.**
- **Give Production something besides a forecast to work with.**
- **Allow you to prioritize customers and realign commitments of constrained product when necessary.**

What Should it NOT Do!

- **Render results that are impossible to understand.**
- **Return results you know are incorrect.**
- **Confuse rather than help.**
- **Annoy rather than delight.**
- **Increase shipping costs.**
- **Decrease fill rates.**
- **Lower customer satisfaction.**
- **Increase the processing time of customer service.**
- **Result in turnover and career changes.**

What We'll Cover Today

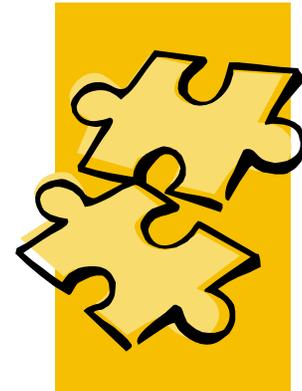
- **Why ATP?**

- **ERP's ATP**

- **APO's ATP**

- **Side by Side**

- **What will come in the future?**



- **Customizing is based on a combination of fields from the MRP and SD views of the Material Master Record, for the most part.**

- **Stable**

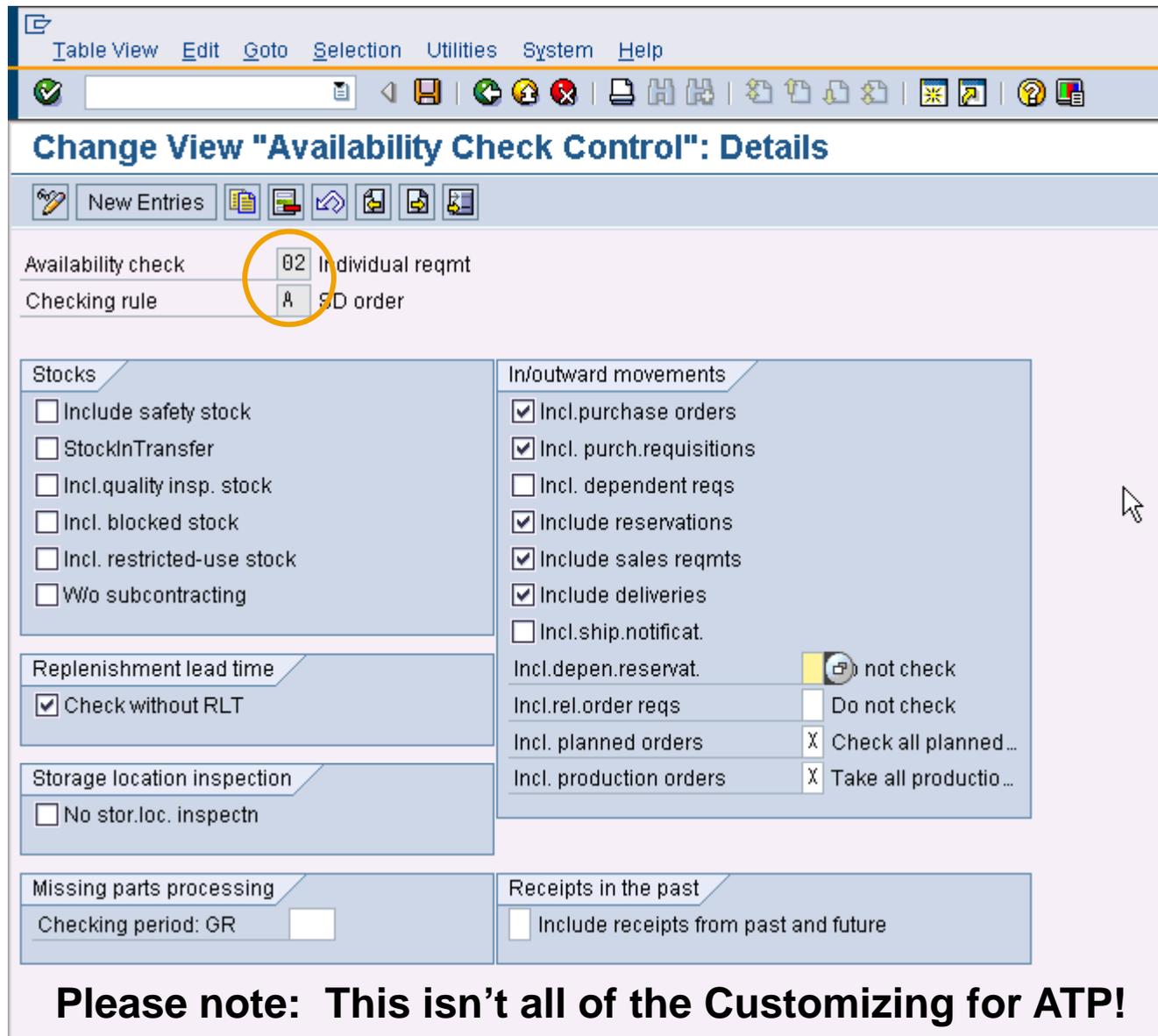
- **Used by 1000's.**

- **Enjoying a resurgence of use as the "Local ATP" check from CRM sales orders.**

- **User exit on Delivery Proposal screen adds additional location searches.**

- **"Other Plants"...**

Customizing – Key Fields



The screenshot shows the SAP Customizing interface for 'Availability Check Control'. The title bar reads 'Change View "Availability Check Control": Details'. The main area contains several sections:

- Availability check:** 02 Individual reqmt
- Checking rule:** A SD order
- Stocks:** Includes checkboxes for safety stock, transfer, quality inspection, blocked stock, restricted-use stock, and subcontracting.
- Replenishment lead time:** Includes a checked checkbox for 'Check without RLT'.
- Storage location inspection:** Includes a checkbox for 'No stor.loc. inspectn'.
- Missing parts processing:** Includes a field for 'Checking period: GR'.
- In/outward movements:** Includes checkboxes for purchase orders, requisitions, dependent reqs, reservations, sales reqmts, deliveries, and ship notifications.
- Receipts in the past:** Includes a checkbox for 'Include receipts from past and future'.

A yellow circle highlights the '02' and 'A' values in the 'Availability check' and 'Checking rule' fields. A mouse cursor is visible on the right side of the screen.

Please note: This isn't all of the Customizing for ATP!

What Happens When an ATP Check is Performed?

■ When everything is confirmed, on the line item level, as the customer requested it → nothing happens, really

The screenshot shows the SAP 'Create Standard Order: Overview' interface. The top menu bar includes 'Sales document', 'Edit', 'Goto', 'Extras', 'Environment', 'System', and 'Help'. The main area displays order details such as 'Standard Order' (blank), 'Net value' (50,106.00 EUR), 'Sold-to party' (1320), and 'Ship-to party' (1320). Below this, there are tabs for 'Sales', 'Item overview', 'Item detail', 'Ordering party', 'Procurement', 'Shipping', and 'Reason for rejection'. The 'Item overview' tab is active, showing a table of items. The first item is highlighted in yellow, and its status 'S' is circled in orange. The table columns include Item, Material, Order quantity, SU, Description, Status, Customer Material Num, ItCa, DG..., HgLvlt, First date, PInt, and Batch.

Item	Material	Order quantity	SU	Description	S	Customer Material Num	ItCa	DG...	HgLvlt	First date	PInt	Batch
10	P-106	20	PC	Pumpe GG IDESNOR...	S		TAN			05/04/2005	1000	
										05/04/2005		
										05/04/2005		
										05/04/2005		
										05/04/2005		

What Happens When an ATP Check is Performed?

■ When everything is not OK, first this...

The screenshot displays the SAP 'Standard Order: Availability Control' window. The interface includes a menu bar (Edit, Goto, System, Help) and a toolbar with various icons. The main area is divided into several sections:

- Navigation Buttons:** Complete delv., Delivery proposal, Continue, ATP quantities, Scope of check, Other plants.
- Item Details:** Item 10, Sched.line 1, Material P-106, Pumpe GG IDESNORM 100-106, Plant 1000.
- Delivery Dates and Quantities:** Req.deliv.date 04/26/2005, End lead time 05/04/2005, Open Quantity 150 PC, Max.Part.Deliveries 9.
- One-time del. on req. del. dte : not possible:** Dely/Conf.Date 04/26/2005 / 04/21/2005, Confirmed quantity 0.
- Complete delivery:** Dely/Conf.Date 05/04/2005 / 04/29/2005, Confirmed quantity 150 (checked).
- Dely proposal:** Dely/Conf.Date 05/04/2005 / 04/29/2005, Confirmed qty 150 (checked).

Then This...

Sales document Edit Goto Extras Environment System Help

Create Standard Order: Overview

Standard Order: Net value: 50,106.00 EUR

Sold-to party: 1320 Becker Koeln / Wahnheider Strasse 57 / 51105 Koeln

Ship-to party: 1320 Becker Koeln / Wahnheider Strasse 57 / 51105 Koeln

PO Number: ASUG PO date:

Sales | Item overview | Item detail | Ordering party | Procurement | Shipping | Reason for rejection

Req. deliv.date: D 05/04/2005 Deliver.Plant:

Complete div. Total Weight: 5,600 KG

Delivery block: Volume: 15 M3

Billing block: Pricing date: 04/15/2005

Payment card: Exp.date:

Payment terms: ZB01 14 Days 3%, 30/2... Incoterms: CIF Köln

Order reason:

Sales area: 1000 / 10 / 00 Germany Frankfurt, Final customer sales, Cross-division

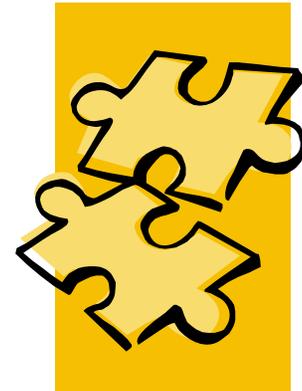
Item	Material	Order quantity	SU	Description	S	Customer Material Numb	ItCa	DG...	HgLvlt	First date	Plnt	Batch
10	P-106	20	PC	Pumpe GG IDES... MOR...	<input checked="" type="checkbox"/>		TAN			D 04/26/2005	1000	
					<input type="checkbox"/>					D 05/04/2005		
					<input type="checkbox"/>					D 05/04/2005		
					<input type="checkbox"/>					D 05/04/2005		
					<input type="checkbox"/>					D 05/04/2005		



- **ATP check and transfer of requirements**
- **Check Control, including Scope of Check**
- **No easy solution to “Single source” ATP check, or multiple location check**
 - **User exit on “Other Plants” button.**
- **Everything driven by Requested Delivery Date**

What We'll Cover Today

- Why ATP?
- ERP's ATP
- APO's ATP
- Side by Side
- What will come in the future?



- **Smaller install base than ERP**
- **Younger product**
- **New processes being added with each release**
- **A HUGE release coming up with SCM 5.0**
- **Different philosophy, fewer restrictions**
- **More opportunities to influence future development**
- **Also integrated with CRM to perform its availability checks**

Customizing Key Fields

Table View Edit Goto Selection Utilities System Help

Change View "Maintain Check Instructions": Details

New Entries

Check Mode 050 Warehouse consumpt.

Business event A SD order

Maintain Check Instructions

Product Check 1 First step

Neutr.ProdCheck

Prod.allocation 2 Second step

Neutr.Prod.All.

Forecast 3 Third step

Forecst:Neutral

Rules-Based ATP Check

Rules-based ATP Use Prod. Interchangeability Master Data

Create Subitem Use Calcul. Profile

Start immediat. X Immediate Rule Evaluation, Without Previous Check

Validity Mode Only Use Elements in the Validity Area

Remain. Reqmt 1 Create Remaining Requirement for Source Location Product

Production

StartProduction 0 Availability Check Only, No Production

Production Time 0 After Executing all Basic Methods

Re-create receipt elements

Multilevel ATP Check

Compts Remain. Reqmt Create Remaining Requirement at Header Level

Conversion Mode - ATPTreeStrct Create Several Plnd Ords (1 Plnd Order Per Partial ...

Business Event Multilevel ATP

Customizing Key Fields

The screenshot shows the SAP SD Customizing interface for 'Assign Rule Strategy'. The table below is the main data view, with the 'Bus. Trans.' column highlighted by an orange circle. The table has columns for 'Tech. Scen.', 'Bus. Trans.', 'Act. Type', and 'Handling CP'. The rows show various combinations of these fields, with the last row (CM, CTM, CM, 1 Add) highlighted in yellow.

Tech. Scen.	Bus. Trans.	Act. Type	Handling CP
AA	A	A	0 Substitute
AA	A	B	0 Substitute
AA	CPF1	A	0 Substitute
AA	CPF1	B	0 Substitute
AA	CPF2	A	0 Substitute
AA	OR	A	0 Substitute
AA	OR	B	0 Substitute
AA	SM1	A	0 Substitute
AA	SM1	B	0 Substitute
AA	SM1	C	0 Substitute
CM	CTM	CM	1 Add

■ **Business Transaction is assigned to Order Type in SD Customizing. That means that a different rule-strategy can be assigned based on SD document type!**

My Favorite – Defining the Scope

Table View Edit Goto Selection Utilities System Help

Change View "SAP Categories": Overview

Dialog Structure

- SAP Categories
- Non-SAP Categories

C..Cat. text	LongCatTxt	S..Cat. Type
AE PrjOrd (C)	Project Order (Created)	25 1 Receipts
AF PrjOrd (R)	Project Order (Released)	25 1 Receipts
AG PurRqs	Purchase requisition	20 1 Receipts
AH PO memo	Shipping Notification	20 1 Receipts
AI PIOrd.	Planned order (not firmed, unconfirmed)	23 1 Receipts
AJ PIOrd. (F)	Planned order (firmed, unconfirmed)	23 1 Receipts
AK PIOrd.(NC)	Planned order (not firmed, confirmed)	23 1 Receipts
AL PIOrd.(CF)	Planned order (confirmed, firmed)	23 1 Receipts
AM ProdRes	ProdRes. not withdrawable, location-rel.	30 2 Requirements
AN PrdRes (W)	MatRes. withdrawable, location-relevant	30 2 Requirements
AO PrdRes (N)	MatRes. not withdrawable, not locn-rel.	30 2 Requirements
AP MatRes(WN)	MatRes withdrawable, not location-rel.	30 2 Requirements
AQ ProdRes	ProdRes. not withdrawable, location-rel.	30 1 Receipts
AR PrdRes (W)	MatRes. withdrawable, location-relevant	30 1 Receipts
AS PrdRes (N)	MatRes. not withdrawable, not locn-rel.	30 1 Receipts
AT MatRes(WN)	MatRes withdrawable, not location-rel.	30 1 Receipts
AU OrdRes	Order reservation not withdrawable	31 2 Requirements
AV OrdRes (W)	Order reservation withdrawable	31 2 Requirements
AW OrdRes	Order reservation not withdrawable	31 1 Receipts
AX OrdRes (W)	Order reservation withdrawable	31 1 Receipts
AY DepDmd	Dependent demand	32 2 Requirements
AZ DepDmd	Dependent demand	32 1 Receipts

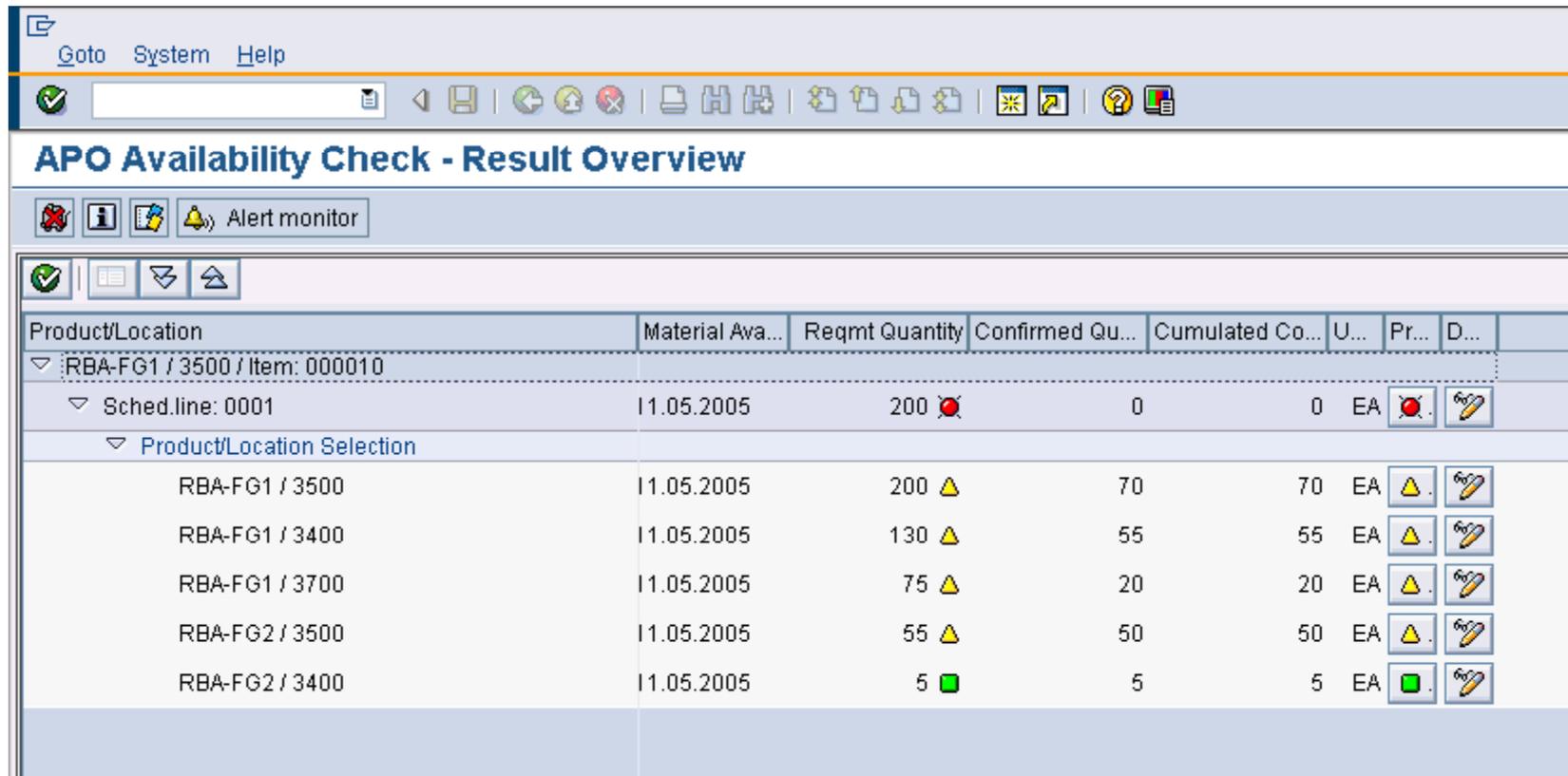
Position... Entry 5 of 117

What Happens When an ATP Check is Performed?

The Choices:

- A basic ATP check (in APO)
- A rules-based ATP check
 - Product substitution
 - Location substitution
 - May include a Calculation Profile
- A Multi-level ATP check
 - Perhaps in combination with rules-based ATP
- A Product Allocation Check
- A Production capacity check (Capable-to-Promise)
- A combination of the above

What Happens When an ATP Check is Performed?



Product/Location	Material Ava...	Reqmt Quantity	Confirmed Qu...	Cumulated Co...	U...	Pr...	D...
▼ RBA-FG1 / 3500 / Item: 000010							
▼ Sched.line: 0001	11.05.2005	200	0	0	EA		
▼ Product/Location Selection							
RBA-FG1 / 3500	11.05.2005	200	70	70	EA		
RBA-FG1 / 3400	11.05.2005	130	55	55	EA		
RBA-FG1 / 3700	11.05.2005	75	20	20	EA		
RBA-FG2 / 3500	11.05.2005	55	50	50	EA		
RBA-FG2 / 3400	11.05.2005	5	5	5	EA		

One possibility, out of several

If Using CTP, Results Could Look Like This

- The Scroll icon will only appear when a CTP check has taken place
- Clicking it will show you the log of the planning run that took place in PP/DS.

Order Item: 10, Schedule Line: 1

Product: US-CTP-F6, APO Finished Good - CTP

Production plant: 3000, New York

Requested date: 27.05.2003, Open quantity: 200, EA

Fixed date and qty, Max part deliv.: 9

SL date	PrdAvailDt	Confirmed Quantity	ONE	FULL	Confirmed qty	Pro
19.08.2003	19.08.2003	200			200	

- **Rules-based ATP- nothing comparable in R/3**
 - “Scripted” product and location substitution
 - Calculation Profile
 - PPM (Production Process Model) substitution

- **Capable-to-Promise – nothing comparable in R/3**
 - Executes planning run in PP/DS
 - Finite scheduling

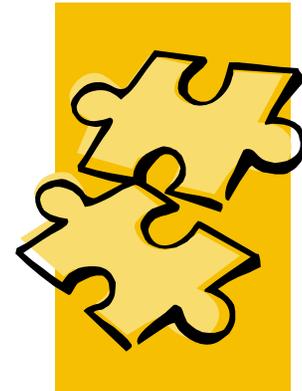
- **Forecast check**

- **Product Allocations**

- **Backorder Processing**

What We'll Cover Today

- **Why ATP?**
- **ERP's ATP**
- **APO's ATP**
- **Side by Side**
- **What will come in the future?**



How Do They Compare? – General Features

APO

- **Livecache – totals are stored in memory resident database**
- **Alert Monitor in APO allows for exception management**
- **Simulation tool creates a simulative environment without creating Temporary Quantity Assignments**
- **Maintenance tools such as “Display Temporary Quantities” and “Convert Tree Structures”.**

ERP

- **Totals are calculated, from the database, each time an ATP check is done**
- **No comparable tool in ERP**
- **Fake sales orders**
- **Limited maintenance tools**

Product Availability Checking

APO

- **100+ ATP elements**

- **External categories can be defined to interface with non- R/3 applications**

ERP

- **Far less detail – approximately 20 ATP categories**

- **Not possible to integrate with legacy systems at this level.**

APO

- **Strategy Determination for rules**
- **Consumption period in Calculation Profile applies to backward consumption of all supplies including stocks**
- **Location Substitution**
- **Linkage of Calculation Profile to CTP profile**

ERP

- **Nothing comparable**
- **FIFO logic in ERP's dynamic ATP lets supplies in the immediate future be used up by future customer orders**
- **Automatic ATP check on one location per line item only**
- **Nothing comparable**

APO

- **Multiple product substitution strategies**
- **Fan, network and simple structures with 10 different strategies**
- **Ability to find everything that might meet the customer's requirement**
- **Product substitution across multiple locations**

ERP

- **Material Determination can not support more than one concurrent program in a flexible manner**
- **“Work Forward” only**
- **A can be replaced by B & C. System searches for B first and then C, but will not find C, if B is available only partially**
- **Limited to one location or plant only**

Backorder Rescheduling

APO

- Ability to prioritize on Material Availability Date
- Priority is defined with 30+ fields
- Ability to select desired document categories and filter criteria with more than 20 fields, prior to prioritization
- Ability to run in simulation mode while running background mode
- Retain partially confirmed quantities

ERP

- R/3 only uses Requested Delivery Date with Delivery Priority
- Only a handful
- R/3 selects all documents for a plant/material combination
- No such flexibility in background mode
- ERP could lose partial confirmation while trying to get more, because of the way it processes

Product Allocations

APO

- LiveCache

- Info Cubes

- Separate allocation tables and Info Cubes for set-up and monitoring

- Repair Tools

- Check Date can be delivery date, goods issue date or product availability date.

- Tools to rebuild statistics for existing documents when new allocations are defined

- Good reporting tools

ERP

- Tables

- Info Structures

- Uses the same tables, resulting in locking of users

- None available

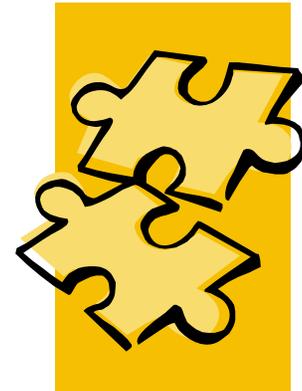
- Material availability date

- LIS tool process requires reconfiguration and massaging of data when there are changes in allocations

- Limited reporting tools

What We'll Cover Today

- **Why ATP?**
- **ERP's ATP**
- **APO's ATP**
- **Side by Side**
- **What will come in the future?**



What Will Come in the Future?

ERP

- Enhanced support for “local” ATP check from CRM
- That’s all I know...

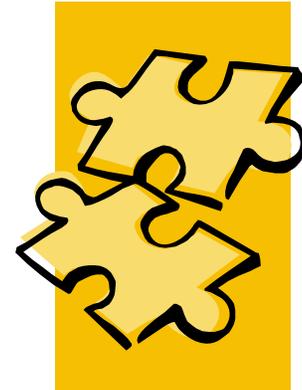
What Will Come in the Future?

APO

- **3 releases in past 4 years**
- **SCM 5.0 in 12/05 will make 4 releases in 4 years**
- **Next release after SCM 5.0 will be in 2007**
- **Consistent development of both new releases and maintenance**
- **Enhanced support for ATP checks coming from both CRM and ERP**

What We'll Cover Today

- **Why ATP?**
- **ERP's ATP**
- **APO's ATP**
- **Side by Side**
- **What will come in the future?**



To Contact the Speaker

Patti Kimler
Product Manager SCM
PTU Applications
SAP Labs, LLC
patricia.kimler@sap.com