

Oracle Advanced Supply Chain Planning: Benefits for Small Companies

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Introductions

- **Bob Smith** – Director, Oracle Corporation, IBU – Bob is a member of Oracle’s Industries Business Unit with a main focus on the Advanced Planning applications.
- **Kevin Creel** – Founding Partner, Inspirage LLC – consulting firm specializing in Oracle Advanced Planning & Demantra applications.

Oracle Compliance Message

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Agenda:

- Oracle Vision for supply chain applications
- Competitive Factors effecting Small and Mid sized companies
- ASCP Benefits
- Practical aspects of implementing Oracle Advanced Supply Chain Planning

Oracle's Response to today's Competitive Environment

Business trends forcing you to move to demand driven adaptive planning

EVOLVING CHALLENGES

Older business models are challenged by the new decentralized global network model

Introduces new challenges and focus areas:

- Globalization and global sourcing - leaner supply networks, increased demand variability, cost volatility
- Increased customer expectations - faster product life cycles with local market requirements
- Mergers and acquisitions, and continued consolidation of suppliers and customers
- Increasing compliance requirements such as Sarbanes-Oxley

IMPACTS TO SUPPLY CHAIN

Move from static demand planning to demand sensing and shaping

- Capture demand signals more frequently and closer to the point of sale – drive to consensus demand number
- Shape your demand with profitability and capacity as key drivers
- Implement real-time and collaborative sales and operations planning process

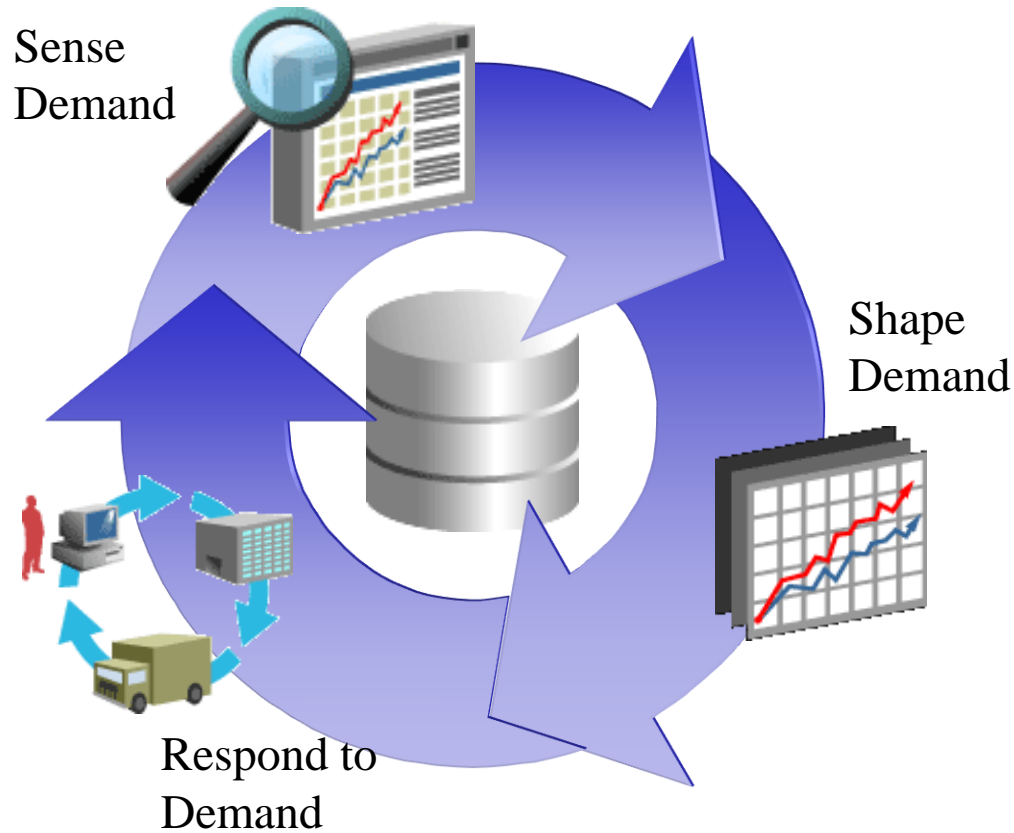
Multi-tier decision support instead of enterprise plans

- Materials and logistics are both primary constraints
- Cross-enterprise synchronized view of demand signal encompassing both supply and demand visibility
- More scrutiny of material liability

Focus on more frequent supply network flow analysis

- Analyze optimal flows for market response, changing geopolitical situations, and unplanned events
- Rationalize suppliers to minimize risk
- Determine postponement strategies
- Conduct cost-to-serve and product portfolio analysis

The demand driven company runs on real-time information



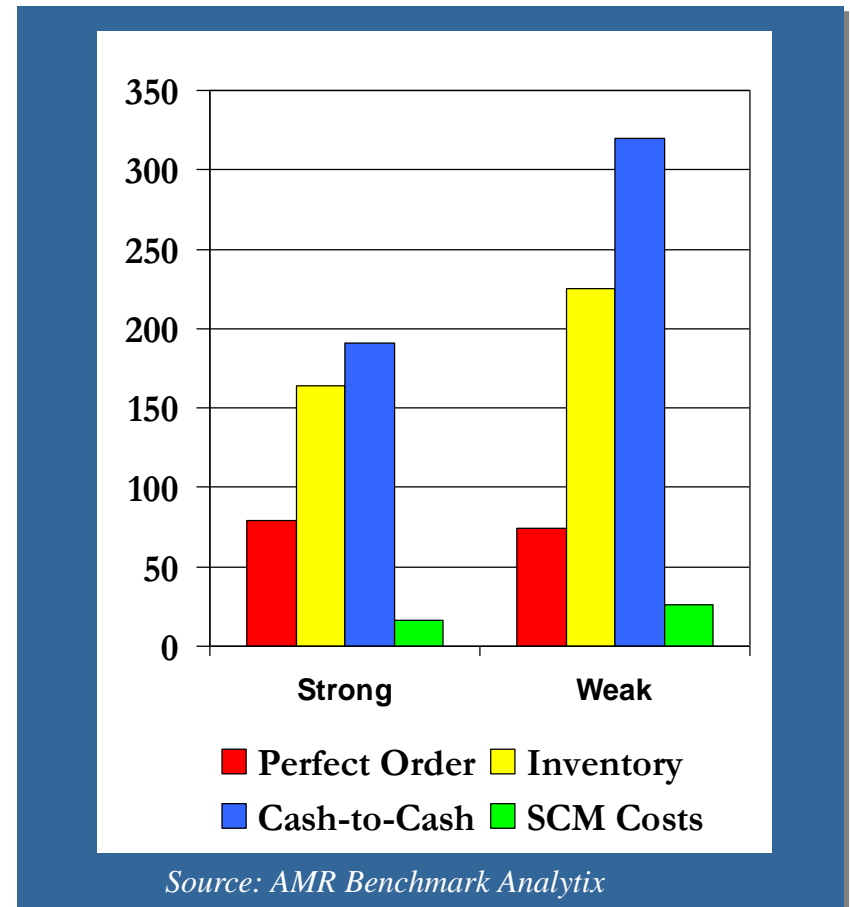
Why Is Demand Driven Important?

Demand Driven leaders have:

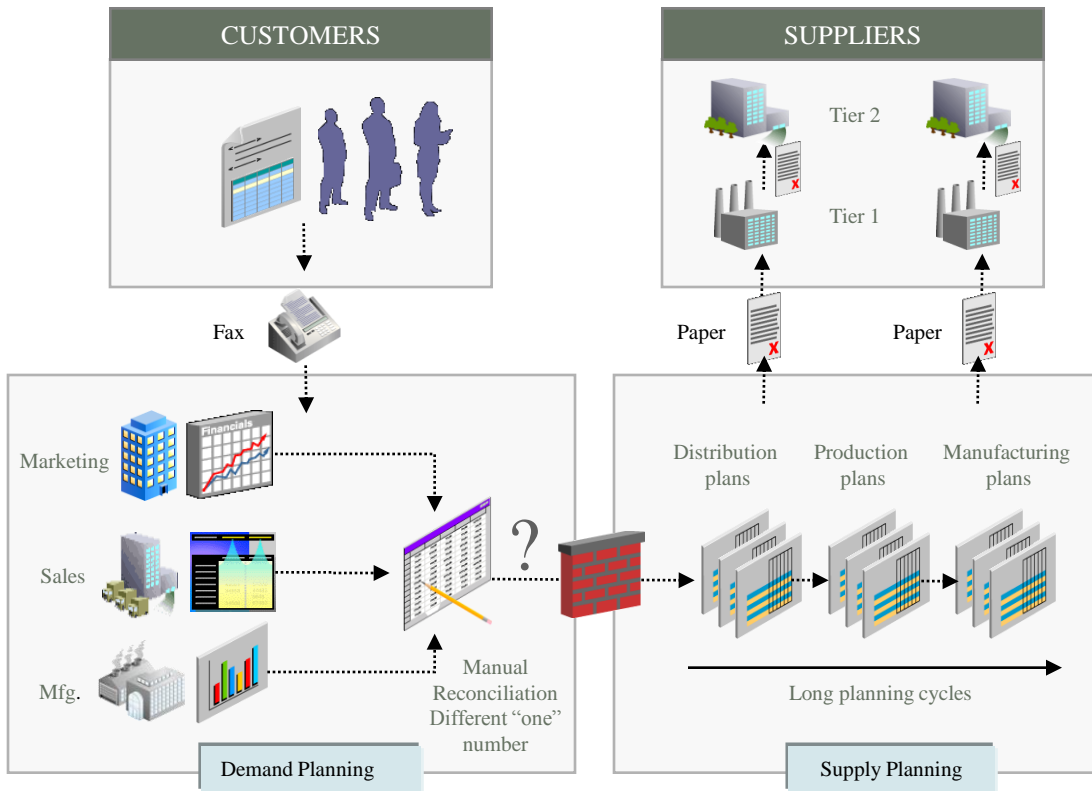
- 15% less inventory
- 17% stronger order fulfillment
- 35% shorter cash-to-cash cycle times

Which translates to:

- 60% better profit margins
- 65% better EPS
- 2-3X the ROA



Cannot Enable with Disconnected Systems

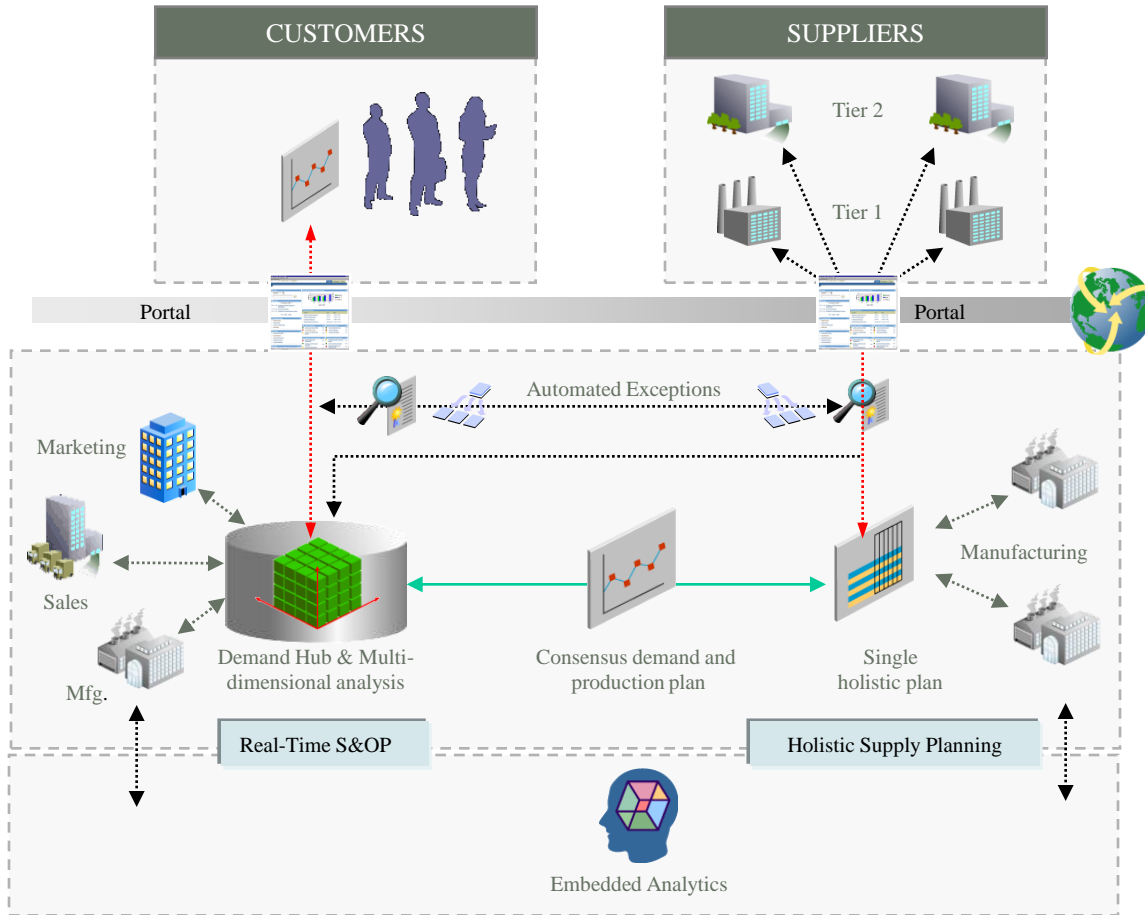


- *Response 1:*
Maintain excess inventory
- *Response 2:*
Reserve production capacity
- *Response 3:*
Expedite everything!

Supply Chains built on
INVENTORY

Better Approach

Oracle's Demand driven adaptive planning process platform



- Real-time end demand visibility – Quickly sense and respond to demand changes
- Shape demand and align business plans quickly
- Manage your business with real-time sales and operations planning
- Monitor performance to drive continuous

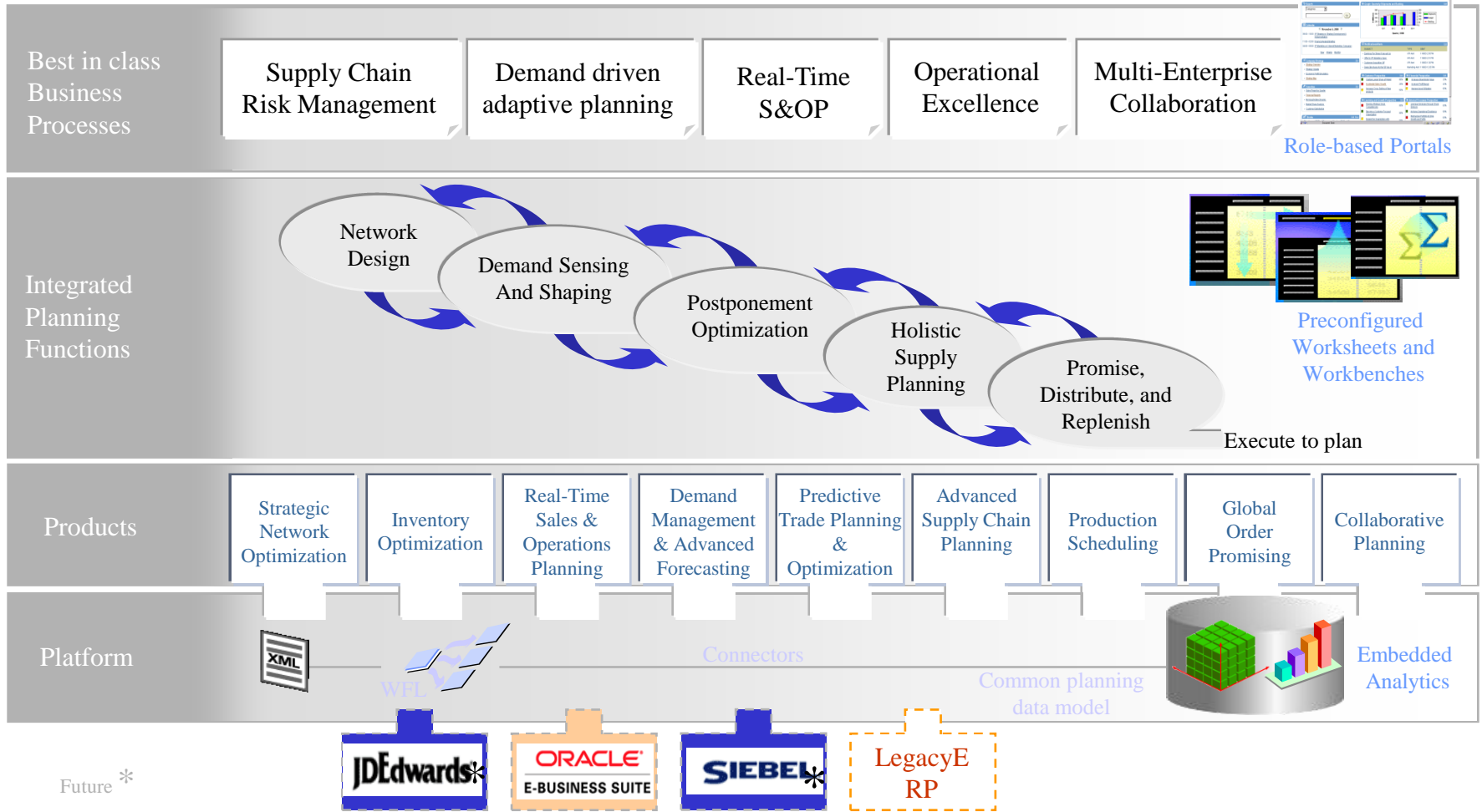
Supply Chains built on
INFORMATION instead of
Inventory

How

ORACLE®

Delivers

Oracle Advanced Planning Solution



Enabling transformational processes

- **Demand driven adaptive planning**
 - Sense demand better through advanced analytics, improved consensus forecasting, and real-time visibility to demand events
 - Shape demand by enabling real-time sales and operations planning, and promotions planning and optimization
 - Respond faster to demand through holistic supply planning, cross-enterprise collaboration, and demand-driven VMI
- **Global supply chain design and risk management**
 - Design your network holistically
 - Account for variability in your hedging strategy
 - Incorporate flexibility to enable fault tolerant supply networks
- **Drive operational excellence**
 - Improve demand fulfillment through real-time distributed global order promising
 - Improve shop floor efficiency with real-time production scheduling
 - Drive continuous improvement with embedded analytics

Why upgrade to Oracle Advanced Planning

Enables leading edge and transformational business processes ...

- ❶ Where to start?
- ❷ How to expand?



From standard MRP ...

It provides benefits (similar to how black-and-white TV provided benefits)



- **Unconstrained material and resource planning for a single manufacturing organization**
- **Basic forecasting**
- **Basic unconstrained available to promise**
- **No collaboration with trading partners**



No future growth path !



... to Unconstrained Advanced Planning

Lay down a strong foundation for future growth, at similar cost!



- Improved planner productivity through a new productivity enhancing UI, planner collaboration, and workflow automation
- Reduced planning cycle time by running fewer plans
- Continuous improvement through integrated business intelligence
- Improved scalability and performance through component architecture

Strong foundation for future growth path !



Shape Demand

- Real-time S&OP
- Promotions and sales incentives

Design for Agility

- Inventory hedging strategies
- Supply chain risk analysis

Sense Demand

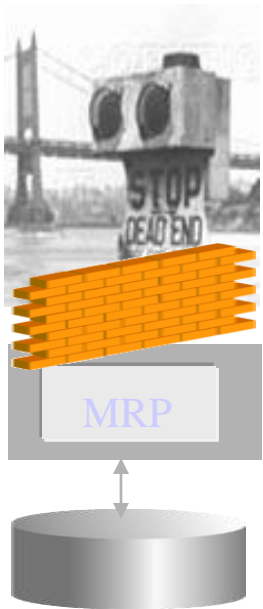
- Simple forecasting
- Advanced statistics
- Causals, attribute based forecasting

Collaborate across Enterprises

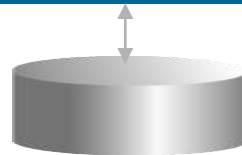
- Vendor managed and consigned inventory
- Multi-enterprise supply planning

- Unconstrained resource and material planning
 - Constrained based planning
 - Distribution planning and constrained global order promising
- Respond to Demand**

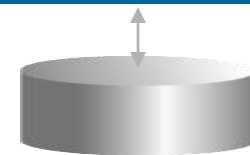
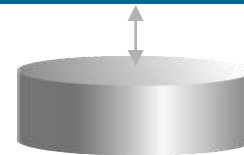
APS Foundation (common data model, component architecture)



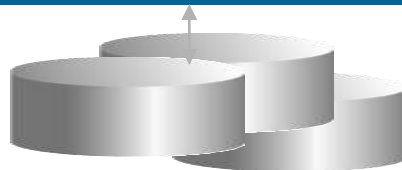
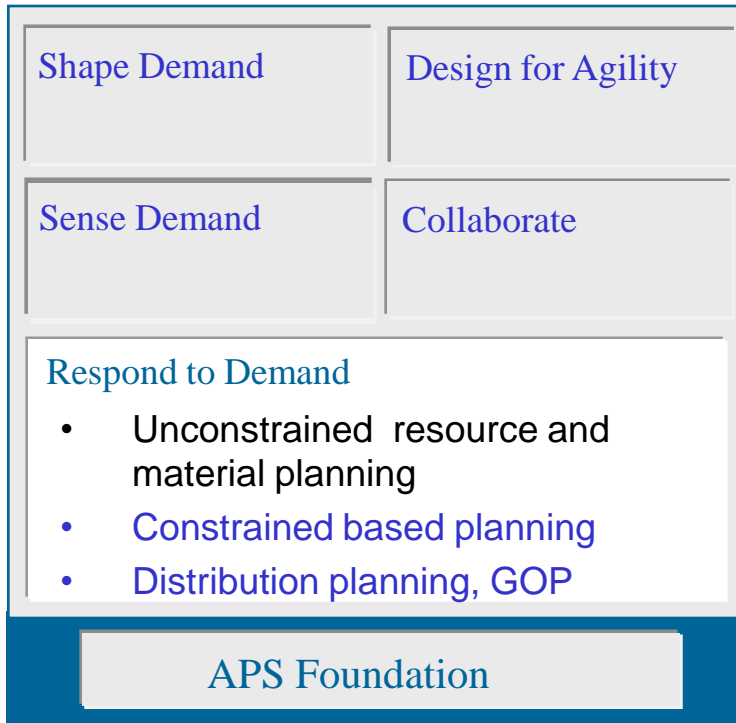
Oracle ERP
(same release, single instance)



Oracle ERP
(different releases, multiple instances)



Start with Unconstrained Planning



Oracle ERPs

- Use a single plan to plan your entire supply chain to reduce planning cycle time
 - Simultaneous material and capacity planning
 - Plan process and discrete mixed models
 - Perform forecast consumption inline
- Plan at aggregate level, as well as detailed level in a single plan, with better accuracy
 - Time granularity in plan horizon
 - Account for yields
- Leverage advanced problem solving and analysis tools
 - Comprehensive exception management and automation through workflow
 - Extensive pegging capabilities
- Measure plan to target performance
 - Integrated performance management

Similar effort as deploying MRP – Reuse all existing setup !

Why ASCP instead of MRP

Capabilities	MRP	ASCP
Master Production Scheduling	✓	✓
Rough Cut Capacity Planning	✓	✓
Material Requirements Planning	✓	✓
Capacity Requirements Planning	✓	✓
Mixed mode manufacturing support	✓	✓
Plan all locations, all manufacturing methods, all planning time horizons (short to long term) in a single plan		✓
Plan at aggregate level as well as detailed (hour, minute) level in one plan, for each plan time period		✓
New productivity enhancing user interface		✓
Problem solving and analysis tools		✓
Personal and public queries		✓
In line forecast consumption		✓
Supply chain planning and Distribution Planning ⁽¹⁾		✓
Integrated performance management		✓
Integration with Oracle Process Manufacturing (process support)		✓
Integration with Oracle Shop Floor Management (semi-conductor support)		✓
Component architecture		✓

Implementing Unconstrained Planning

1 Install

- Install ASCP using the 11i rapid install process
- Decide on deployment (one instance, distributed)

2 Setup

- Link Planning instance to ERP source instance
- Define profile options (optional)

3 Collect

- Run data collection process to collect ERP data for planning
- Collect from one or more source instances (optional)

4 Plan

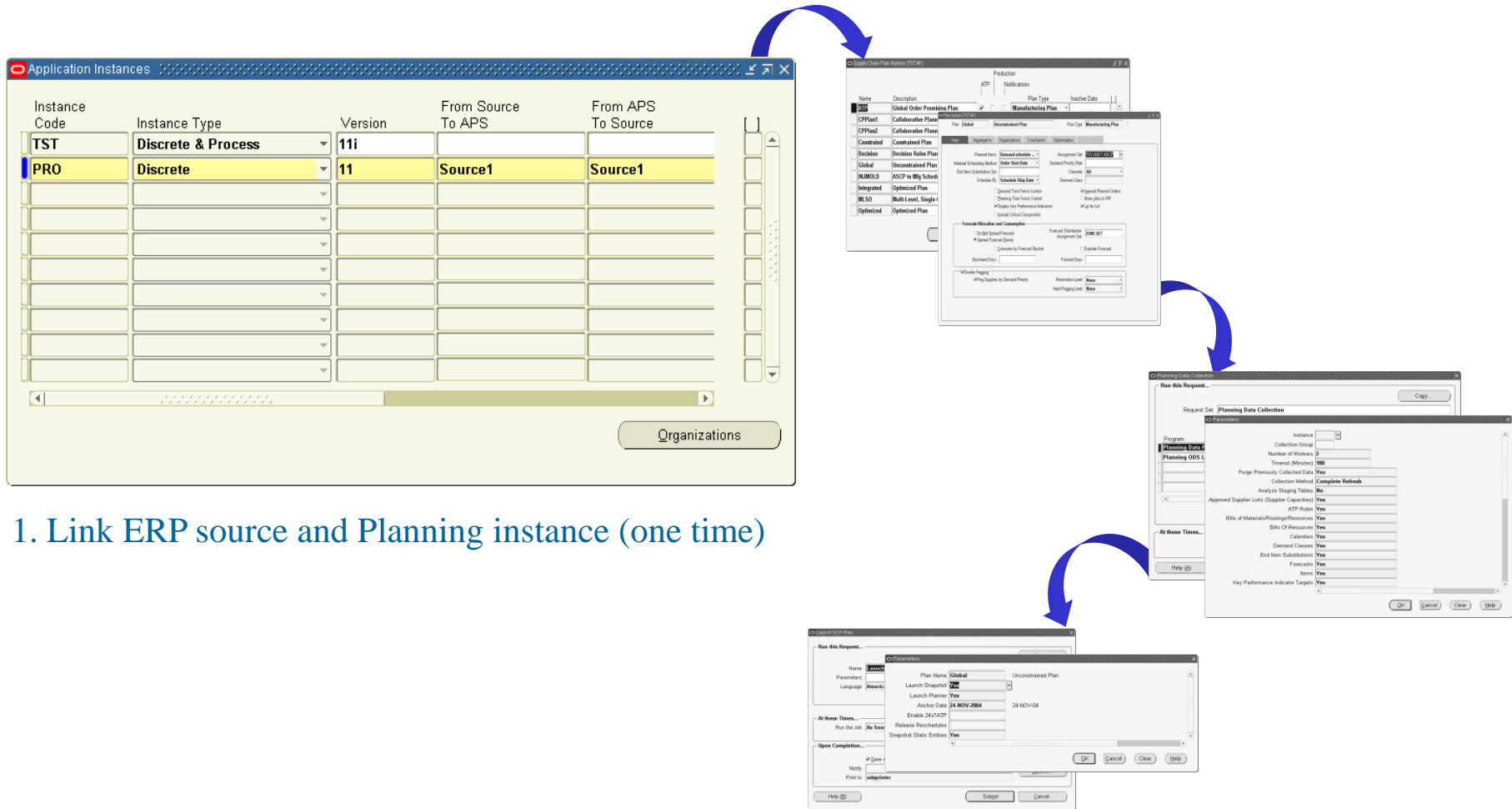
- Define plan and plan options
- Run plan

5 Analyze

- Launch Planner Workbench to analyze plans

Similar effort as deploying MRP – Reuse all existing setups !

Implementing Unconstrained Planning



Implementing Unconstrained Planning

2. Collect ERP source data

The screenshots illustrate the configuration of an unconstrained planning plan in Oracle ERP:

- Supply Chain Plan Names (TST.M1):** A table listing various plan types. The 'ATP' (Global Order Promising Plan) is highlighted.
- Plan Options (TST.M1):** Configuration screen for the 'ATP' plan. The 'Plan Type' is set to 'Unconstrained Plan' and 'Manufacturing Plan'. The 'Main' tab shows options for 'Planned Items' (Demand schedule), 'Material Scheduling Method' (Order Start Date), and 'End Item Substitution Set' (Schedule Ship Date). Other options include 'Forecast Allocation and Consumption' and 'Enable Pegging'.
- Run this Request (Planning Data Collection):** A dialog box for running the 'Planning Data Collection' request. It includes options for 'Request Set', 'Program', and 'At these Times'.
- Run this Request (Global Unconstrained Plan):** A dialog box for running the 'Global Unconstrained Plan' request. It includes options for 'Name', 'Parameters', 'Language', 'Launch Plan', 'Anchor Date', 'Run the job', 'Open Completion', and 'Notify'.

Implementing Unconstrained Planning

Instance Code	Instance Type	Version	Plan Status To ATP	Plan ATP To Source
TST	Discrete & Process	111	Successt	Successt
PROD	Discrete	111	Successt	Successt

Supply Chain Plan Names (TST.M1)

Name	Description	Plan Type	Inactive Date
ATP	Global Order Promising Plan	Manufacturing Plan	
CPPlan1	Collaborative Planni		
CPPlan2	Collaborative Planni		
Constraid	Constrained Plan		
Decision	Decision Rules Plan		
Global	Unconstrained Plan		
INJMOLD	ASCP to Mfg Schedu		
Integrated	Optimized Plan		
MLSO	Multi-Level, Single-C		
Optimized	Optimized Plan		

Plan Options (TST.M1)

Plan: Global | Unconstrained Plan | Plan Type: Manufacturing Plan

Main | Aggregation | Organizations | Constraints | Optimization | Decision Rules

Planned Items: Demand schedule ... | Assignment Set: I11:ASET:ASCIP

Material Scheduling Method: Order Start Date | Demand Priority Rule: All

End Item Substitution Set: | Overwrite: All

Schedule By: Schedule Ship Date | Demand Class: |

Demand Time Fence Control | Appended Planned Orders

Planning Time Fence Control | Move Jobs to PIP

Display Key Performance Indicators | Lot for Lot

Include Critical Components

Forecast Allocation and Consumption

Do Not Spread Forecast | Forecast Distribution: ZONE-SET

Spread Forecast Evenly | Assignment Set: |

Consume by Forecast Bucket | Explode Forecast

Backward Days: | Forward Days: |

Enable Pegging | Reservation Level: None

Peg Supplies by Demand Priority | Hard Pegging Level: None

3. Define plan and plan options

Launch SCIP Plan

Run this Request...

Name: Launch | Plan Name: Global | Unconstrained Plan

Parameters: | Language: American | Launch Staged: Yes

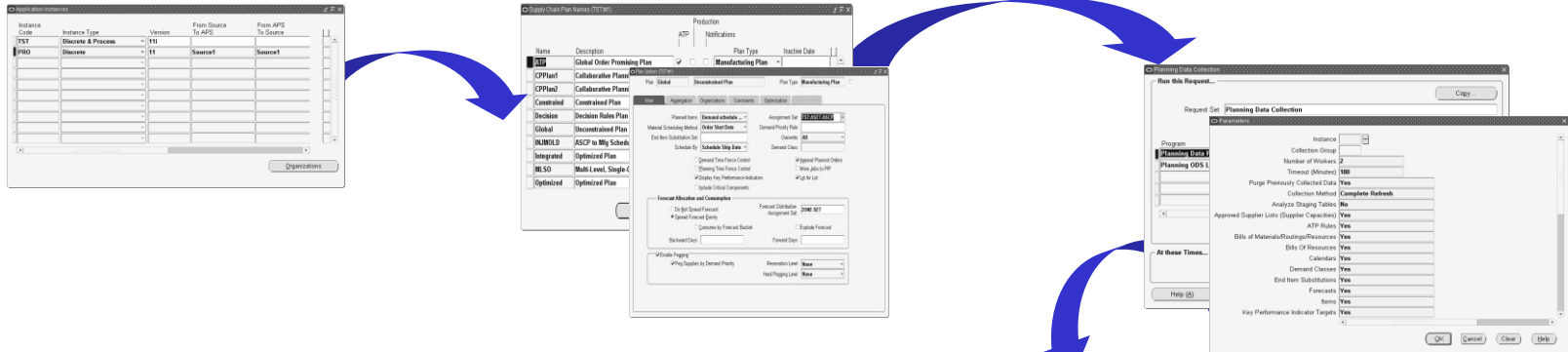
Launch Planner: Yes | Anchor Date: 24 NOV 2014 | 24 NOV 14

At these Times: | Run the Job: (As Soon) | Release Reschedules: | Enable 24x7 ATP: | Snapshot Static Entities: Yes

Open Completion... | Notify: | Priority: subordinator

Buttons: OK, Cancel, Help

Implementing Unconstrained Planning



Launch SCP Plan

Run this Request... Copy...

Name: **Launch Supply Chain Planning Process**

Parameters:

Language: **American English** Language Settings...

At these Times...
Run the Job: **As Soon as Possible**

Upon Completion...
 Save all Output File
Notify:
Print to: **adsprinter**

Help (E)

Parameters

Plan Name: **Global** Unconstrained Plan

Launch Snapshot: **Yes**

Launch Planner: **Yes**

Anchor Date: **24-NOV-2004** 24-NOV-04

Enable 24x7ATP:

Release Reschedules:

Snapshot Static Entities: **Yes**

OK Cancel Clear Help

4. Run plan

Results: Improved Plan Analysis

Horizontal Plan (TST:M1)

Item	Forecast	05-MAR-2007...	12-MAR-2007...
TST:D2 AS66311	3,500.0	3,500.0	
	Gross requirements	3,500.0	3,500.0
	In Transit	0	0
	Planned orders	3,500.0	3,500.0
	Total supply	3,500.0	3,500.0
	Projected available balance	0	0

Vertical Plan (TST:M1)

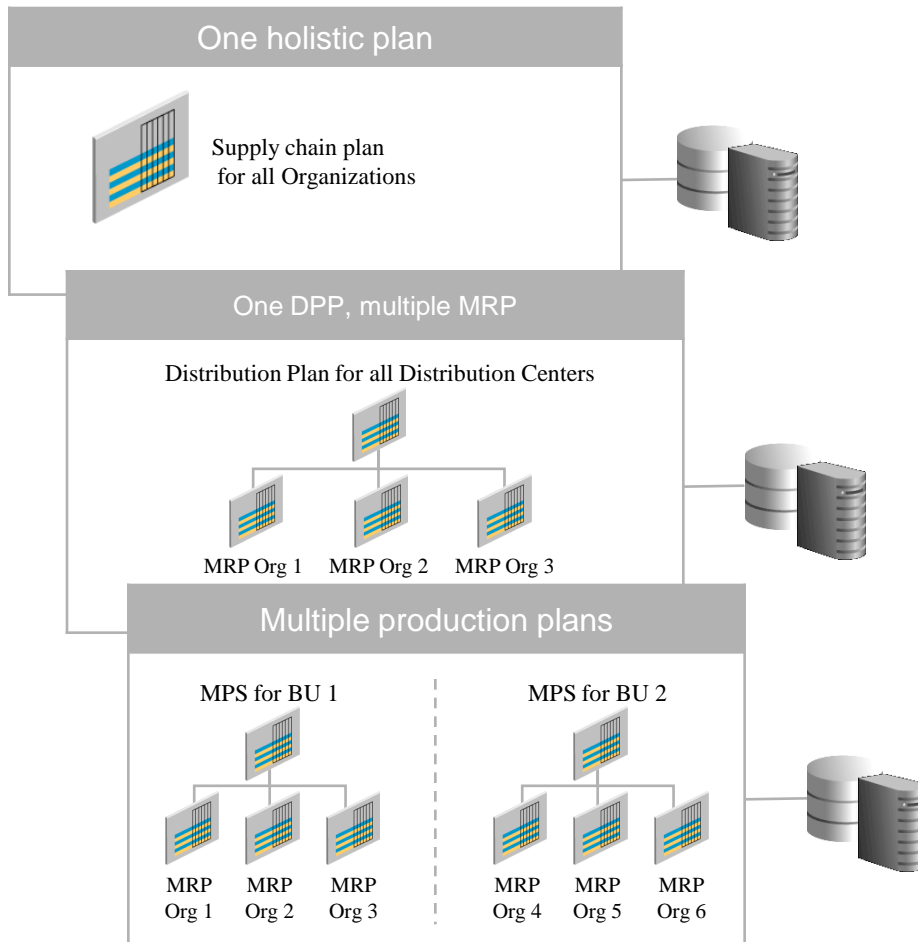
Org	Item	Order Type	Date	Qty	Cumulative Qty
TST:D2	AS66311	On Hand	23-JAN-2007	727.0	727.0
		Forecast	20-FEB-2007	-700.0	27.0
		Planned order	21-FEB-2007	673.0	700.0
		Forecast	21-FEB-2007	-700.0	0.0
		Planned order	22-FEB-2007	700.0	700.0
		Forecast	22-FEB-2007	-700.0	0.0
		Planned order	23-FEB-2007	700.0	700.0
		Forecast	23-FEB-2007	-700.0	0.0

Supply/Demand (TST:M1)

Org	Item	For Release	Firm	Description
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi
TST:D2	AS66311	<input type="checkbox"/>	<input type="checkbox"/>	Vision Pad DX - Mobi

- Personal queries for items, resources, orders, and exceptions
- Multiple horizontal plan definitions
- Enhanced multi-level pegging
- Bookmark and undo for simulation (OLP)
- Release based on rules
- Improved Gantt Chart for order and resource analysis
- Item attribute simulation sets


Adaptable – Segment the Problem As Needed

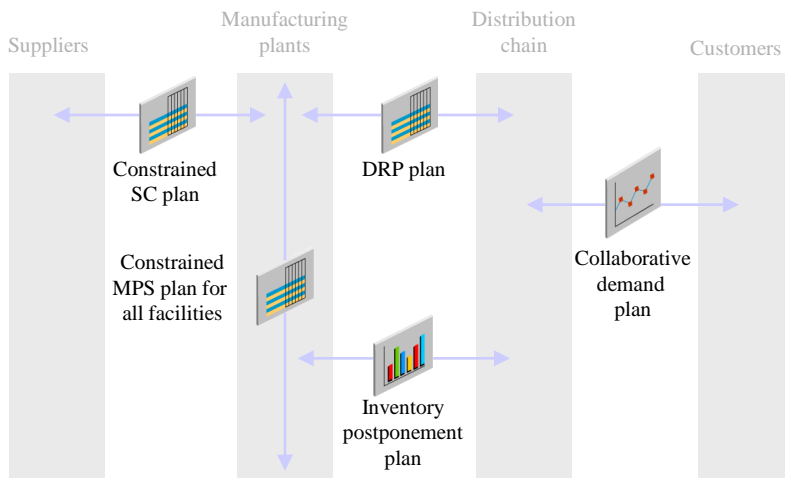


- **Adapts to your current business model**
 - Single plan or multiple plans
 - Hub-and-spoke planning models
- **Evolve planning model at your own pace**
 - Re-configure easily by modifying plan options instead of re-implementing or re-modeling
- **Multiple models can co-exist**

Customer Examples

Live on Advanced Supply Chain Planning

- **Interceramic**  Interceramic®
 - 91 Distribution centers, stores, and franchises
 - 4 Plant warehouses
 - 7 Manufacturing plants
 - 3000 BOMs, 100,000 SKUs
 - Run DRP, constrained MPS, and raw material MRP



- **Knowles Electronics**

- Global planning instance
 - 2 Locations in the US
 - 1 Location in Europe
 - 5 Locations in Asia
- Mixed mode manufacturing
 - Make to stock
 - Make to order
 - Configure to order
- Global order promising against 1 central plan



Knowles Electronics has reduced inventory by \$1M per month after implementing Advanced Planning

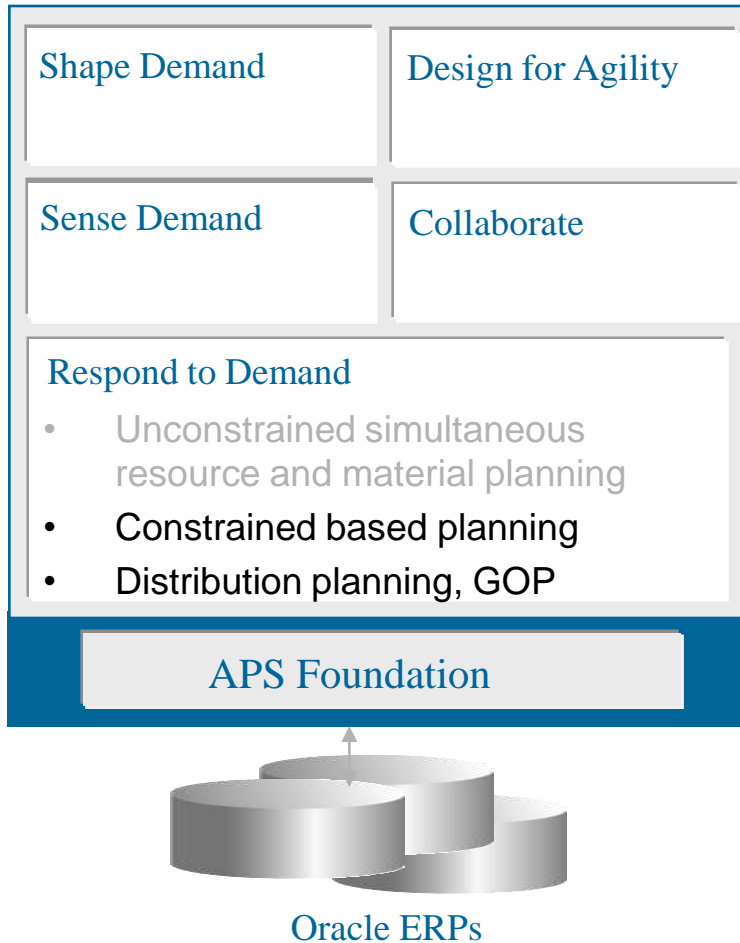
Why upgrade to Advanced Planning

Enables leading edge and transformational business processes ...

- ① Where to start?
- ② How to expand?



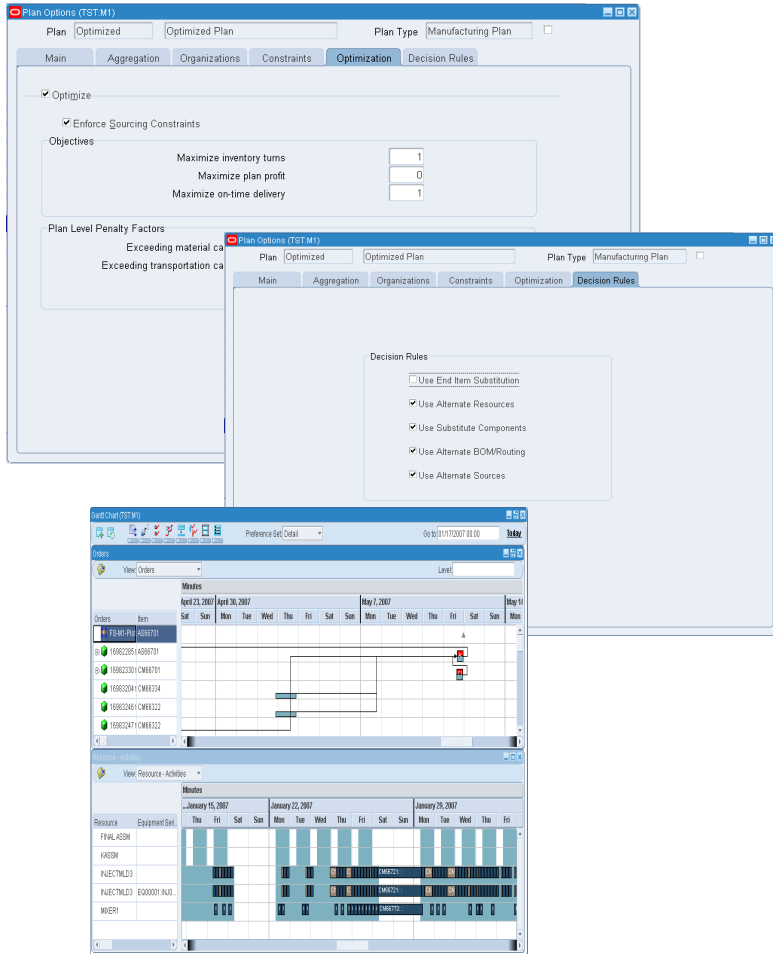
How to Expand?



- Improve the quality of your plans
 - Constraint based optimization
 - Cost based optimization
- Improve operational excellence
 - Constrained based order promising
 - Distribution planning
- Improve demand sensing
 - Consensus demand management closer to the point of consumption
 - Leverage better statistics for more accurate forecasts
 - Use causal modeling and attribute based forecasting to improve forecast number
- Shape demand for profitability
 - Analyze the impact of promotions and sales incentives programs on your demand predictions
 - Analyze the impact of new product introductions
 - Leverage sales and operations planning to balance demand, supply, and budgets
- Collaborate across multiple enterprises
- Design your supply chain with agility in mind
 - Design your supply chain with cost and profitability as drivers
 - Align your inventory hedging and postponement strategy

Focus on your most important business problem first

Improve The Quality Of Your Plans

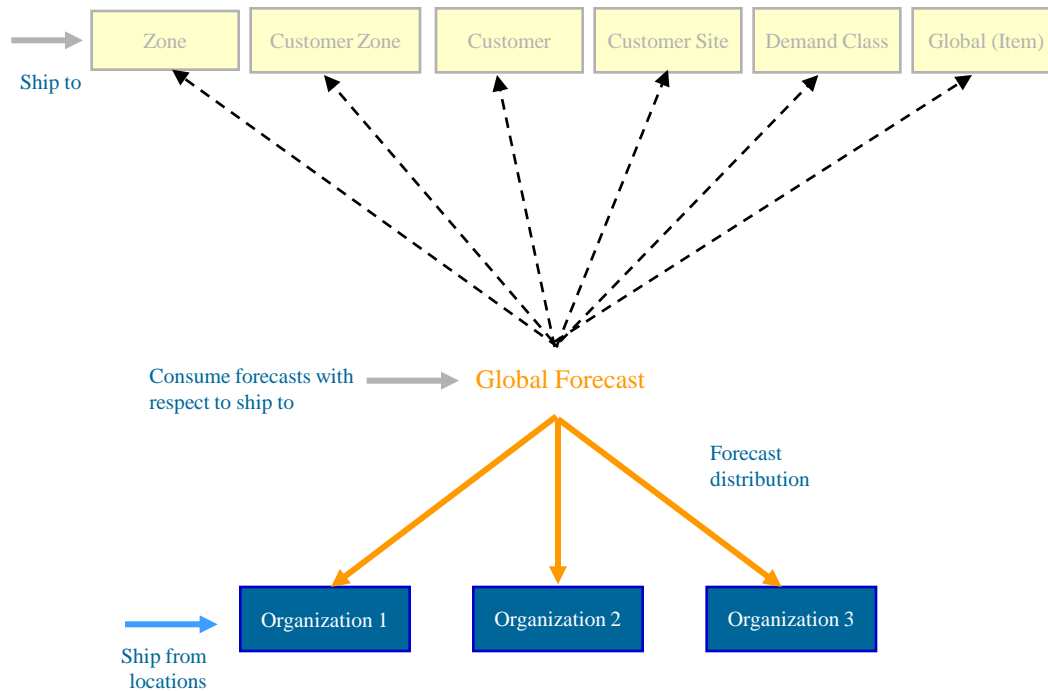


- **Improve plan quality**
 - Automatically recommend alternative suppliers, components, resources, facilities, and routings
 - Generate feasible plans that respect your material and resource constraints

- **Make better decisions faster**
 - Cost based optimization: maximize profit, inventory turns, and customer service
 - Out-of-the-box optimization requires no programming
 - Priority based decisions
 - Drag-and-drop rescheduling

- **Improve resource scheduling**
 - Schedule simultaneous resources
 - Batch resources
 - Minimum transfer quantities
 - Sequence dependent changeovers

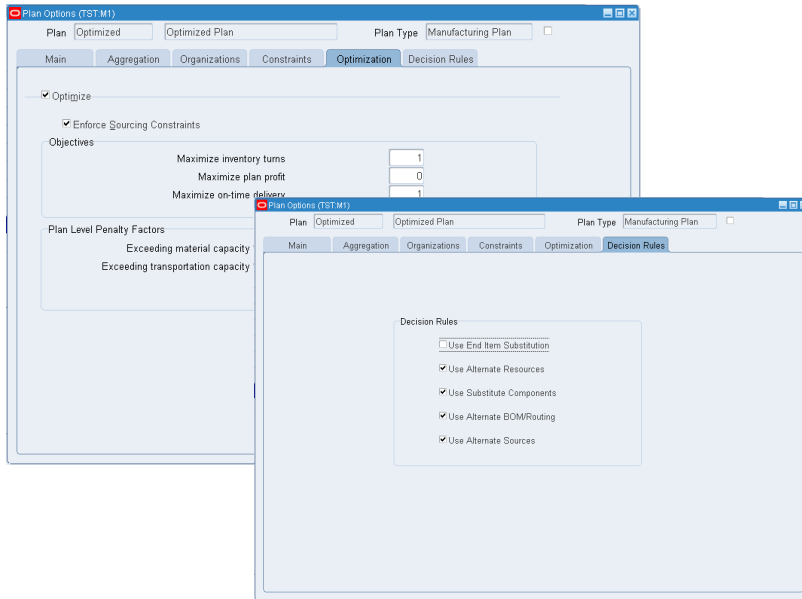
Global Forecasting and Consumption



- **Postpone fulfillment decision to supply planning**
 - Check availability before specifying shipping location
 - Allocate supply to customers
- **Generic forecasts**
 - Forecast without reference to shipping facilities
 - Consume forecast based on type of demand

Increase flexibility for your fulfillment decisions

Out-of-the-box Optimization



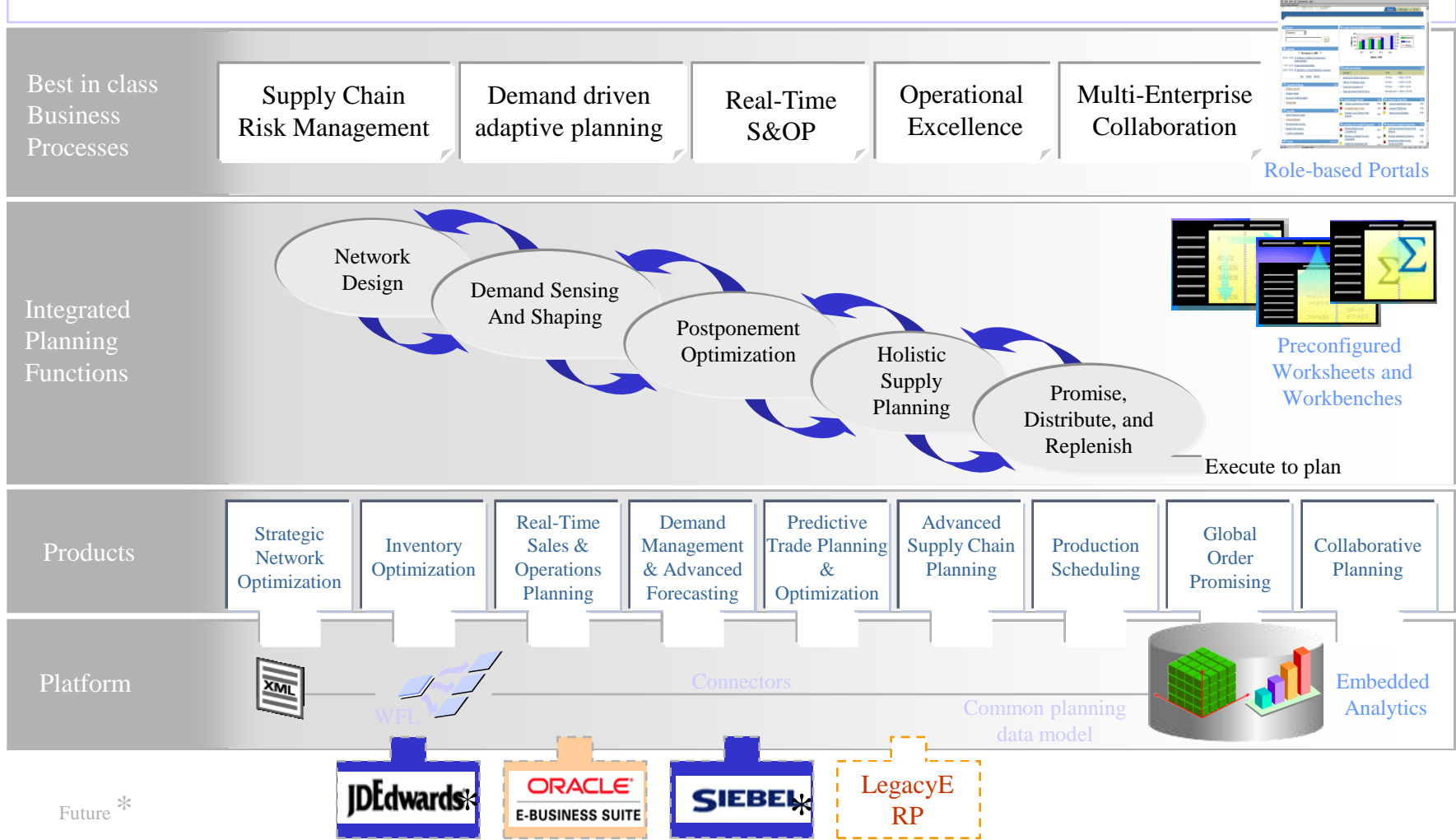
- **Make better decisions faster**
 - Level load
 - Choose alternatives
 - Make versus buy decisions
 - Late demand diagnosis
- **Out-of-the-box optimization**
 - Use costs or decision rules
- **Start quickly**
 - Planners define the problem to solve
 - Flexible defaulting
- **Reduce planner workload**



GE Transportation - Avionics has moved from running separate plans in 36 facilities to running a single holistic plan across their DCs, end-assembly, contract manufacturing, and component shops, and as a result has reduced their planning organization significantly

Summary

Upgrade from MRP to Advanced Planning



Oracle Advanced Planning

Enables leading edge and transformational business processes ...



- ❶ **Start with unconstrained supply planning**
- ❷ **Expand quickly, leveraging the same foundation, to solve your most important business problems first**
- ❸ **Implement at a modular pace while not foregoing the benefits of out-of-the-box integration**

Key Takeaways

- **Proven, best in class planning solution**
 - Many live customers on multiple products, across a wide variety of industries
 - Large-scale, complex, worldwide deployments
 - For Planners, Not Programmers - Out-of-the-box optimization and predictive analytics
 - Superior architecture - scalable, database-driven demand and supply planning; common data model across all engines, shared with execution
- **Provides significant value**
 - Enables real-time demand driven dynamic supply planning
 - Enables customers to implement best practices such as RT S&OP, VMI, CPFR, Supply Chain Risk Management, Inventory Postponement
 - Proven reductions of inventory and increases in forecast accuracy, customer service levels
- **Progress at your own pace, transition gradually**
 - Quickly start with the most important problem
 - Integrated platform enables crawl-walk-run approach
 - Leverage out-of-the-box integration to rapidly extend planning footprint

Invitation:

Join the OAUG Advanced Planning & Collaboration SIG monthly webcasts for similar educational sessions!



supplychainsig.oaug.org

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