SAP APO Versus SAP Integrated Business Planning: Leading Advice and Key Considerations for Whether and How to Migrate to SAP’s New Cloud-Based Supply Chain Planning Suite

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EY
In This Session

- Understand the new planning modules from SAP within the context of real-world planning challenges
- Hear the technology options available in the marketplace, including features, functionality, and integration scenarios
- Compare on-premise vs. cloud planning options
- Understand applicable scenarios and transition path for moving to IBP solution landscape
- Get guidance on how to start assessing your specific situation and ascertain the direction in which to go
What We’ll Cover

- Current planning challenges in the marketplace
- The new SAP product roadmap for planning
- SAP supply chain planning – options and functionality
- Assessment and direction setting for creating roadmap
- Use cases for implementation scenarios
- Wrap-up
Current Planning Challenges in the Marketplace

- Organizations are facing new challenges and opportunities related to globalization and volatility
- Volatility has increased dramatically, with constantly shifting supply lines and unpredictable demand
- Businesses want to monitor changes in their supply chain and the potential risks/opportunities they create, and they want to know impact and possible actions in real time

<table>
<thead>
<tr>
<th>Business Capabilities</th>
<th>Business Issues</th>
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</thead>
<tbody>
<tr>
<td>Response</td>
<td>Poor services levels, less agility to respond to sudden supply and demand variability</td>
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<tr>
<td>Analysis</td>
<td>Inability to measure and improve performance</td>
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<td>Collaboration</td>
<td>High operational costs, functions working in silos toward differing objectives</td>
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<tr>
<td>Decisions</td>
<td>Inability to make rapid business decisions supported by real-time data</td>
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<td>Efficiency</td>
<td>Long planning cycle times, ineffective planning process</td>
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Current Technologies Do not Address These Planning Challenges

- Significant investments in planning solutions and capabilities have not generated the desired outcomes and the expected benefits
- Supply chain technologies have always been developed with separate functional focus and suffer lack of synchronization
- Users have not been able to combine the power of analytics with planning
- Event management has helped to understand the supply chain events but has not transcended into re-planning to respond
- Supply chain execution and planning have remained disparate, locally optimized processes
Planning System of Record — A New Paradigm

- Planning solutions have to be recast considering the current market challenges and leveraging technologies like cloud, in-memory, and mobile.
- Supply chain Planning System of Record will have to consider the convergence of planning and execution capabilities to facilitate demand-driven, responsive, and agile planning.
- Along with planning and optimization, analytics, granular data visibility, and ability to respond appropriately to unplanned events needs to be an integral part of SCP System of Record.
# Planning System of Record — Solution Capabilities

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<tr>
<th>Business Issues</th>
<th>Solution Capability</th>
<th>Business Capability</th>
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<tbody>
<tr>
<td>Poor services levels, less agility to respond to sudden supply and demand variability</td>
<td>Scenario planning, what-if simulation, rapid re-planning</td>
<td>Response</td>
</tr>
<tr>
<td>Inability to measure and improve performance</td>
<td>KPI, analytics, reports, optimization</td>
<td>Analysis</td>
</tr>
<tr>
<td>High operational costs, functions working in silos toward differing objectives</td>
<td>Information visibility, collaboration</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Inability to make rapid business decisions supported by real-time data</td>
<td>Harmonized data model, updated global supply chain and financial data</td>
<td>Analysis, Decisions</td>
</tr>
<tr>
<td>Long planning cycle times, ineffective planning process</td>
<td>Simple user interface, remote accessibility</td>
<td>Efficiency</td>
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SAP Integrated Business Planning Platform

- IBP 5.0 is the latest version of the integrated business planning platform
- IBP for Response yet to be released
- All the components have common HANA platform and are available on cloud
- Harmonized data model; components interoperate seamlessly
- Users interact with the applications using Excel, Web, and Fiori-based interface

Excel is a Microsoft registered trademark.
### SAP Integrated Business Planning Platform (cont.)

#### Control Tower
- End-to-end visibility of supply chain data
- Real-time integration with SAP data sources
- Detailed order-level information
- Configurable analytics & alerts and case management

#### Sales & Operations Planning
- Demand, supply chain, and financial model at aggregate and detailed levels
- Scalable scenarios and simulation
- Collaboration for transparent communication and record decisions

#### Demand
- Statistical forecasting & statistical analysis of demand data
- Demand sensing and mid- to long-term forecasting
- Automated, exception-based planning process

#### Inventory
- Efficiently position inventory to respond to uncertain demand & supply
- Multi-stage inventory optimization
- Inventory target recommendations

#### Supply & Response
- Generation of operational supply plan at order level
- Rules-based, priority-driven solution for supply planning, allocations planning, and order rescheduling
- Pegging and root cause analysis for seeking bottlenecks
- Rapid what-if analysis
- Generate and provide allocations to ATP and reschedule sales orders
Integration Architecture

- HCI can connect to any standard database or flat file data source directly
- HCI updates data directly in SAP IBP tables
- HCI provides export API, which could be invoked to write data back to on-premise
The Underlying Technology

- IBP platform is based on HANA in-memory database

- Gartner defines in-memory computing (IMC) as architecture where applications assume all the data required for processing is located in the main memory of their computing environments

- Gartner has identified three “styles” of IMC applications:
  - Native IMC: The application is developed from inception on the basis of IMC design principles
  - Retrofitted for IMC: Applications that were originally designed on traditional technologies but are now re-platformed on top of an in-memory data
  - Hybrid IMC: Applications use IMC design principles and technologies only in part, usually to store and process the most performance- or scalability-sensitive application data, or to support real-time analytics

- SAP IBP is a native IMC application. It has been developed specifically to leverage the HANA database and hence provides the most benefit among the different overlapping SAP SCP applications
IBP Enabled with HANA Addresses the New Planning Paradigm

- Plan for global and complex supply chains by improving the speed at which the applications process complex data sets
- Improved response times that help planners iterate through multiple scenarios and models in real time
- Allows planners to work collaboratively and interactively without taking hours to complete the process
- Leverage analytics for accurate planning and better insights
- Work with granular data in supporting increased agility and rapid decision making
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SAP Supply Chain Planning Options

- SAP APO provides a solid on-premise planning option while SAP IBP provides a new-generation cloud-based planning option.
- Table below depicts at a high level the planning options for given processes/functionalities (includes upcoming IBP 6.0 functionality).
- These are key functionalities only; supporting capabilities differ between the cloud and on-premise options.

<table>
<thead>
<tr>
<th>Process/Functionality</th>
<th>Cloud (SAP IBP)</th>
<th>On premise (APO/other)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistical forecasting, consensus demand planning</td>
<td>IBP – Demand</td>
<td>APO Demand Planning (DP)</td>
</tr>
<tr>
<td>Demand sensing, short-term forecasting</td>
<td>IBP – Demand</td>
<td>Enterprise Demand Sensing (EDS – SmartOps)</td>
</tr>
<tr>
<td>Aggregate supply planning</td>
<td>IBP – Supply &amp; Response</td>
<td>APO Supply Network Planning (SNP)</td>
</tr>
<tr>
<td>Capable to match, demand-supply prioritization</td>
<td>IBP – Supply &amp; Response</td>
<td>APO CTM (capable to match)</td>
</tr>
<tr>
<td>Deployment planning</td>
<td>None (planned for future)</td>
<td>APO SNP</td>
</tr>
<tr>
<td>Process/Functionality</td>
<td>Cloud (SAP IBP)</td>
<td>On Premise (APO/other)</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Rapid re-planning based on demand, supply or capacity changes; update supply proposal &amp; orders</td>
<td>IBP - Supply &amp; Response</td>
<td>APO GATP + CTM + BOP</td>
</tr>
<tr>
<td>Unconstrained heuristics</td>
<td>IBP – S&amp;OP, Inventory, Supply</td>
<td>APO SNP</td>
</tr>
<tr>
<td>Constrained heuristics</td>
<td>IBP – S&amp;OP, Supply &amp; Response</td>
<td>APO SNP</td>
</tr>
<tr>
<td>Supply planning optimizer</td>
<td>IBP – Supply &amp; Response</td>
<td>APO SNP</td>
</tr>
<tr>
<td>Sales &amp; operations planning</td>
<td>IBP for Sales and Operations Planning</td>
<td>APO, BI</td>
</tr>
<tr>
<td>Rules-based order promising, capable to promise</td>
<td>None</td>
<td>APO GATP</td>
</tr>
<tr>
<td>Inventory planning &amp; optimization</td>
<td>IBP – Inventory (only FG currently; BOM/RM to be added in future)</td>
<td>Enterprise Inventory &amp; Service level Optimization (EIS - SmartOps)</td>
</tr>
<tr>
<td>SC metrics, actionable analytics, alerts, dashboards, analytics-assisted response</td>
<td>Control Tower + IBP Response</td>
<td>Supply Chain Info Center, SAP Supply Chain Performance Management, SAP Event Management</td>
</tr>
</tbody>
</table>
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Business Requirements Assessment and Roadmap

- Organizations need to do a detailed assessment of their process and functional requirements in the short, mid, and long term while developing their roadmap for supply chain planning transformation.
- Several other factors like IS processes, technology/architecture, and business alignment also need to be considered.
Assessment — Alignment Framework

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Vision</td>
<td>Vision states concepts, values and goals that might be known and understood by entire organization.</td>
</tr>
<tr>
<td>Strategy</td>
<td>Establishes how to achieve the proposed vision through objectives and actions.</td>
</tr>
<tr>
<td>KPIs</td>
<td>Defines and communicates strategic and process indicators that might be implemented so that the targeted value generation, as well as directing processes and people to the established vision.</td>
</tr>
<tr>
<td>Process</td>
<td>Determines scope and defines future state operating models and flows.</td>
</tr>
<tr>
<td>Technology</td>
<td>Defines and implements tools to be used to support the future state processes.</td>
</tr>
<tr>
<td>Organization</td>
<td>Formalizes and disseminates, through the company, roles and responsibilities of involved stakeholders.</td>
</tr>
<tr>
<td>People</td>
<td>Skills and behaviors development, required for future state implementation and successful transformation.</td>
</tr>
</tbody>
</table>
Systematic Assessment of Supply Chain, Current, and Future State Is Critical to Define Technology Roadmap

Customer buying behavior

Strategic trade-offs

Variability/inventory strategy

Supply chain archetype

Horizons and buckets

Frequency planning layers

Time hierarchy

Product and sale hierarchy

Agendas and dynamics

Reference: EY copyrighted internal documents
Leverage Leading Practice for Supply Chain Planning Implementations

**Integrated Business Planning (monthly)**
- Product Mgmt Review
- Demand Review
- Supply Review
- Business Review
- Integrated Reconciliation, Financial Analysis and Integration
- Tax, SC Risk and Resiliency Considerations

**Demand & Supply Planning (weekly, daily)**
- Supplier Collaboration
- Demand Management
- Supply Planning
- Customer Collaboration

**Scheduling and Order Promising (daily)**
- Detailed Scheduling
- Order Allocation & Promising

**Strategic SC Planning (monthly, quarterly)**
- Network Strategy
- Inventory Optimization

Reference: EY copyrighted internal documents
Assessment Outcomes Need to Be Converted to Initiatives as Well as Prioritized and Sequenced

1. Process & Technology Assessment

2. Capability Gaps & Readiness

3. Initiatives Development

4. Prioritization and Sequencing

Reference: EY copyrighted internal documents
Develop Roadmap Using the Prioritized and Sequenced Initiatives

- Roadmap should be developed with considerations to interdependent projects and initiatives
- Readiness of business and IS organizations through the roadmap phases needs to be considered along with the benefits realization
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Scenario 1: Improving S&OP Process Efficiency and Effectiveness

Business Situation:
- Sales, finance & supply chain operating to different numbers. Need for cross-functional alignment & collaboration.
- In efficient sales & operations planning process. Users spending large amount of time collecting, formatting & preparing data for S&OP meetings.
- Inability to plan effectively for alternative business scenarios.
- Misalignment with financial objectives on a monthly basis with in effective plans to bridge the gaps.
- Opportunities to optimize inventory placements & overall response to changes in supply chain.
- Business & IS organization readiness to use cloud-based solution to enable the process.

Approach/Strategy:
- Review & transform S&OP process with a view to bridge any process gaps.
- Implement IBP for S&OP, integrated with the existing transactional and tactical supply chain planning solutions for a centralized approach to S&OP.
- Use HCI (HANA Cloud Integration) for direct integration of on-premise solutions with S&OP on cloud.
- Begin with sub-process or business unit pilot followed by rollouts for end-to-end process & enterprise.

Current Solution Landscape:
- SAP or non-SAP ERP platform in place
- SAP APO or non-SAP supply chain planning tools implemented & effectively utilized for tactical demand & supply planning
- SAP BPC or non-SAP financial planning & budgeting solution
- Central business warehouse as data repository for reporting and source of historic massaged data
Scenario 1: Improving S&OP Process Efficiency and Effectiveness (cont.)

To-be solution landscape:

- Typically S&OP is implemented with a sub-process or BU pilot. After the pilot, S&OP is rolled out across all the process area and business units.
- IBP S&OP can be implemented with legacy ERP, APS, or financial planning tools.
Scenario 1: Improving S&OP Process Efficiency and Effectiveness (cont.)

To-be solution landscape:

- SAP ECC
- SAP BW
- SAP APO DP
- SAP APO SNP
- SAP BPC

Master Data
- Historical Data
- Tactical Demand Plan
- S&OP Plan
- Supply Plans
- Annual Financial Plans
- S&OP Volumes

S&OP

Implementation Roadmap

IBP Platform

- Control Tower
- Inventory

- IBP platform could be further extended by implementing Control Tower for SC analytics and Inventory for multi-stage inventory optimization capabilities.
Scenario 2: Improving Short-Term Forecast Accuracy

Business Situation:
- Sub-optimal deployment / replenishment decisions resulting in over-buffering or stock-outs.
- Higher supply chain costs due to higher expedites in the short-term horizon.
- Lower forecast accuracy leading to higher inventory targets.
- Deteriorating service levels.
- Multiple stock rebalancing and order movements.
- Large number of manual short-term forecast adjustments.

Approach/Strategy:
- Establish clear business objectives based on pain points related to short-term forecasting.
- Implement IBP for Demand (available post-Q1 2015) for demand sensing.
- Use HCI (HANA Cloud Integration) for direct integration of on-premise solutions with IBP.
- Begin with pilot business unit as a proof of concept, followed by rollouts.
- Enhance the benefits of the demand module by using it downstream to optimize inventory placements using IBP for Inventory module. Implement IBP for Inventory as the next phase.

Current Solution Landscape:
- SAP ERP platform in place
- SAP APO implemented & effectively utilized for tactical demand & supply planning
- SAP BW as data repository for reporting and source of historic data
Scenario 2: Improving Short-Term Forecast Accuracy (cont.)

To-be solution landscape:

- **Improve short-term forecast accuracy positively impacting deployment, scheduling, and inventory decisions using IBP for Demand**
- **Enhance inventory optimization using accurate short-term forecasts as input to IBP for Inventory**
Scenario 3: Optimize Inventory Across the Supply Chain

**Business Situation:**
- Ineffective inventory management to respond to uncertain demand and supply.
- Inventory placement challenges leading to deterioration in customer service levels.
- Existing inventory planning & optimization approach does not consider total view of supply chain (simultaneous planning of multiple buffers).
- Inability to quantifiably bring inventory reduction opportunities and trade-offs for decision making.
- Inability to model what-if scenarios for various inventory positions.

**Approach/Strategy:**
- Establish clear business objectives based on pain points related to inventory optimization.
- Implement inventory optimization using IBP for Inventory.
- Use HCI (HANA Cloud Integration) for direct integration of on-premise solutions with IBP.
- Begin with pilot business unit as a proof of concept, followed by rollouts.

**Current Solution Landscape:**
- SAP ERP platform in place
- SAP APO DP & SNP implemented & effectively utilized for tactical demand & supply planning
- SAP BW as data repository for reporting and source of historic data
Scenario 3: Optimize Inventory Across the Supply Chain (cont.)

To-be solution landscape:

- SAP ECC
- Business Warehouse
- SAP APO DP
- SAP APO SNP

Master Data, Orders

Historical Data

Forecast

Inventory Targets

IBP Platform

Pilot Rollouts

Implementation Roadmap

Phase 1

- Optimize inventory across the enterprise supply chain using inventory optimization capabilities in IBP for Inventory
Scenario 4: Improve Tactical Planning and S&OP

Business Situation:
- In efficient tactical planning processes requiring manual efforts from users.
- Spreadsheets & legacy planning systems not adding value.
- Usability issues with existing solutions.
- Sales, finance & supply chain operating to different numbers. Need for cross-functional alignment & collaboration.
- Business & IS organization readiness to use cloud-based solution to enable the process.

Approach/Strategy:
- Review & transform demand & supply planning processes. Identify opportunities to improve sales & operations planning process in the longer term.
- Implement IBP for Demand & Supply followed by S&OP, integrated with the existing transactional and business warehouse systems.
- Use HCI (HANA Cloud Integration) for direct integration of on-premise solutions with IBP on cloud.

Current Solution Landscape:
- ERP platform in place
- Demand and supply planning executed using spreadsheets or legacy systems
Scenario 4: Improve Tactical Planning and S&OP (cont.)

To-be solution landscape:

- Begin with IBP for Demand implementation. Implementation could be by divisions or big bang depending upon influencing parameters like number of users, geographies, business units, etc.
- Supply implementation is typically by product lines and plants. S&OP could be a pilot business unit followed by complete enterprise.
Scenario 5: Improve SC Performance and Information Visibility

**Business Situation:**
- Multiple transactional and planning tools across the enterprise leading to lack of a single view of supply chain performance.
- Inadequate supplier visibility.
- Lack of visibility to supply chain disruptions like supply shortage or service-level violations.
- No end-to-end holistic view of the supply chain to support real-time information and decision making.
- Latency in supply chain information availability leading to inventory buffers and delay in response or shipments.

**Approach/Strategy:**
- Supply Chain Control Tower should be implemented as the first step to reduce the latency and support enhanced supply chain visibility.
- Supply chain event response times could be further enhanced by combining Control Tower with IBP for Supply & Response as the next step. This reduces the time to resolve the problem.
- Further S&OP processes produce a more valid & vetted plan using the Control Tower-enabled visibility to supply chain data.

**Current Solution Landscape:**
- Multiple transactional systems and system of records including SAP ERP platform implemented
- SAP APO or other planning tools implemented
Scenario 5: Improve SC Performance and Information Visibility (cont.)

- Enable a single, holistic view of the business, supported by rich analytical tools; individuals across various operations functions can come together to collaboratively make decisions that benefit the enterprise as a whole
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Where to Find More Information

  - Follow Cloud → SAP Integrated Business Planning
- [https://solutionexplorer.sap.com](https://solutionexplorer.sap.com)
  - Browse Solutions/By Line of Business/Supply Chain /Demand-Driven Business Planning/Sales, Inventory and Operations Planning
- Tim Payne, “The Impact of In-Memory Computing on Supply Chain Management” (Gartner, October 2014).
7 Key Points to Take Home

- SAP IBP is not a replacement for SAP APO at this point in time
  - Many components of SAP IBP can complement your existing APO and ECC investments
- Evaluate the fit of SAP IBP platform and components based on current and future requirements and business and technology alignment
- Implementing SAP S&OP is a good way to start on the IBP migration, if that aligns with recommended outcome of the assessment
- SAP is very quickly ramping up the functionality available in SAP IBP, including functionality that is not available in SAP APO, like demand sensing, inventory optimization, and response management
7 Key Points to Take Home

• SAP’s vision is to have a single uniform data model so that data movements are eliminated, thereby reducing data latency
  ⊗ To fully realize this vision will take some additional developments from SAP

• Start your IBP migration journey with a pilot; this will help you acclimatize, with a lower risk, to the new IBP platform and considerations that accompany a cloud solution

• Moving to cloud platform will require a change in the way IS organizations manage security, upgrades, landscape strategy, support, and enhancements
Your Turn!

Questions?

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Please remember to complete your session evaluation
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