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Aspen Petroleum Supply Chain Planner™

Manages the assets and economics of the petroleum distribution network to optimize performance.

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Aspen Petroleum Supply Chain Planner is a powerful economic planning tool that solves multi-commodity distribution problems across various periods related to allocating resources — including transportation, raw materials, sales demands, and processing facilities — to maximize profitability. Better control and monitoring for primary distribution can be achieved through the use of the various graphical views and enhanced case comparison reporting capabilities of this tool.

The Challenge: Adapting to Rapidly Changing Market Conditions

Solving multi-commodity transportation problems across different time periods requires companies to have the agility to make the right decisions, especially in volatile market conditions. They must be able to proactively analyze and capture product buy-sell-exchange opportunities, respond quickly and effectively to price changes and negotiate contracts with the most up-to-date and accurate information available.

The Solution: A Better Plan Delivers Greater Efficiency

Aspen Petroleum Supply Chain Planner solves fluctuating market conditions by optimizing the economic driving forces and physical assets of the primary distribution system to maximize overall profit margin. The software generates an optimal feedstock and/or product distribution plan for multiple commodities using different transportation modes over various time periods with local language support. At any node in the network, materials may be produced, consumed, purchased, sold, exchanged, transported, or placed into inventory.

ESRI mapping enables improved data visualization to evaluate decisions, including all modes of transportation, feedstock acquisition, sales demands, and processing facilities. The filtering options allow for increased slicing and dicing of data such as type-thread search, transport activity display and capacity consumptions directly from the map.

Industry-specific optimization algorithms handle complex product exchanges with capabilities that help users maximize leverage of exchange agreements by evaluating make vs. buy vs. exchange decisions and import/export alternatives.

A Closer Look at Aspen Petroleum Supply Chain Planner

One of the world's leading integrated energy companies with extensive refining, marketing and distribution operations in the United States launched an initiative to enhance its competitiveness through the integration of its business processes. The goal was to improve coordination between distribution planning and operational scheduling across the supply chain. The company faced significant business challenges, including:

- Inability to consistently transform the optimal plan into an executable schedule

- Late and ineffective responses to market changes, unplanned events and activities

- Poor inventory visibility and difficulty maintaining consistent safety stock levels
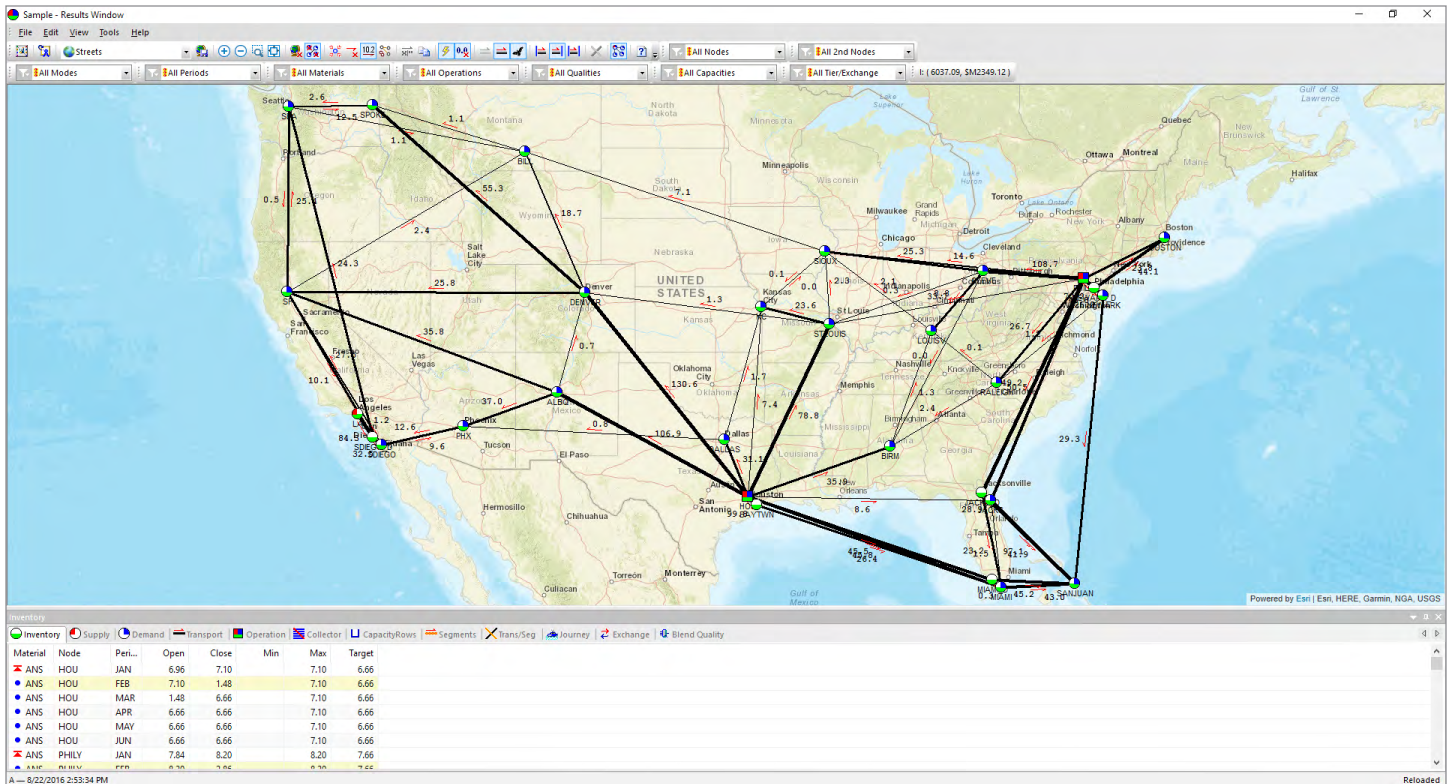
Aspen Petroleum Supply Chain Planner provides several different graphical views to help you better monitor and control primary distribution.

The company selected Aspen Petroleum Supply Chain Planner software for distribution planning that integrates with their demand planning and refinery production planning tools and processes, creating a collaborative "model-based" system shared by refining, supply & distribution and marketing. This resulted in a paradigm shift to a "demand pull" process that enabled collaborative buy vs. make vs. exchange analysis and an optimal plan (nominations, refinery production slate, inventory plan, etc.) that can be transformed into an executable schedule.

The energy company now has an optimal distribution plan that can be executed to achieve improved operations and higher margins. They also take advantage of improved velocity when responding to unplanned events or opportunities and they've improved the visibility into the distribution plan, inventory positions and demand at all levels of the organization.

Function	Benefit
Inventory Management	

• Optimize terminal inventory during:
 	
  – Seasonal changeovers
 	
  – Turnarounds, shutdowns and slowdowns
 	
  – Unforeseen, unplanned situations
	• Reduces overall inventory levels at terminals
	
	• Maintains safety stock and target inventory levels

Distribution Cost Management	
• Optimize the transportation network to make strategic and tactical decisions • Evaluate options such as alternate sourcing locations, new customers and exchanges	• Reduces average distribution system costs • Generates optimal feedstock and product distribution plans • Determines the most economic transportation fleet structure and size
Terminal Management	
• Provide "optimal" inventory by getting the correct product to the right location at the best price via the most cost-effective transportation mode	• Increases asset utilization • Rationalizes asset investments (such as terminals) • Reduces average inventory • Improves customer service
Exchange Management	
• Evaluate make/buy/exchange decisions • Support multiple nodes and multiple products per exchange contract	• Enables the user to maximize leverage of exchange agreements with visibility into forward demand and inventory positions
Decision Support	
• Solve problems with speed and accuracy • Detect supply/demand problems early • Provide scenario planning for strategic and tactical what-if analysis and case comparison reporting	• Accelerates decision-making with sound financial justification • Proactively identifies supply and demand problems before they occur • Shows the impact of changes in demand forecast, inventory position and shipments • Demonstrates the effects of adding or removing customers, terminals, tanks and transportation modes
Integration to Other Systems	
• Integrate with multiple demand forecasting and distribution scheduling systems • Integrate with Aspen PIMS™, the industry-leading refinery optimization package	• Reduces manual data handling while increasing speed to evaluate plans and opportunities • Facilitates data exchange and collaboration • Delivers complete supply chain optimization by connecting demand forecasting and primary distribution to the refinery

AspenTech is a leading supplier of software that optimizes process manufacturing — for energy, chemicals, engineering and construction, and other industries that manufacture and produce products from a chemical process. With integrated aspenONE® solutions, process manufacturers can implement best practices for optimizing their engineering, manufacturing, and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins, reduce costs, and become more energy efficient. To see how the world's leading process manufacturers rely on AspenTech to achieve their operational excellence goals, visit **www.aspentech.com**.

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