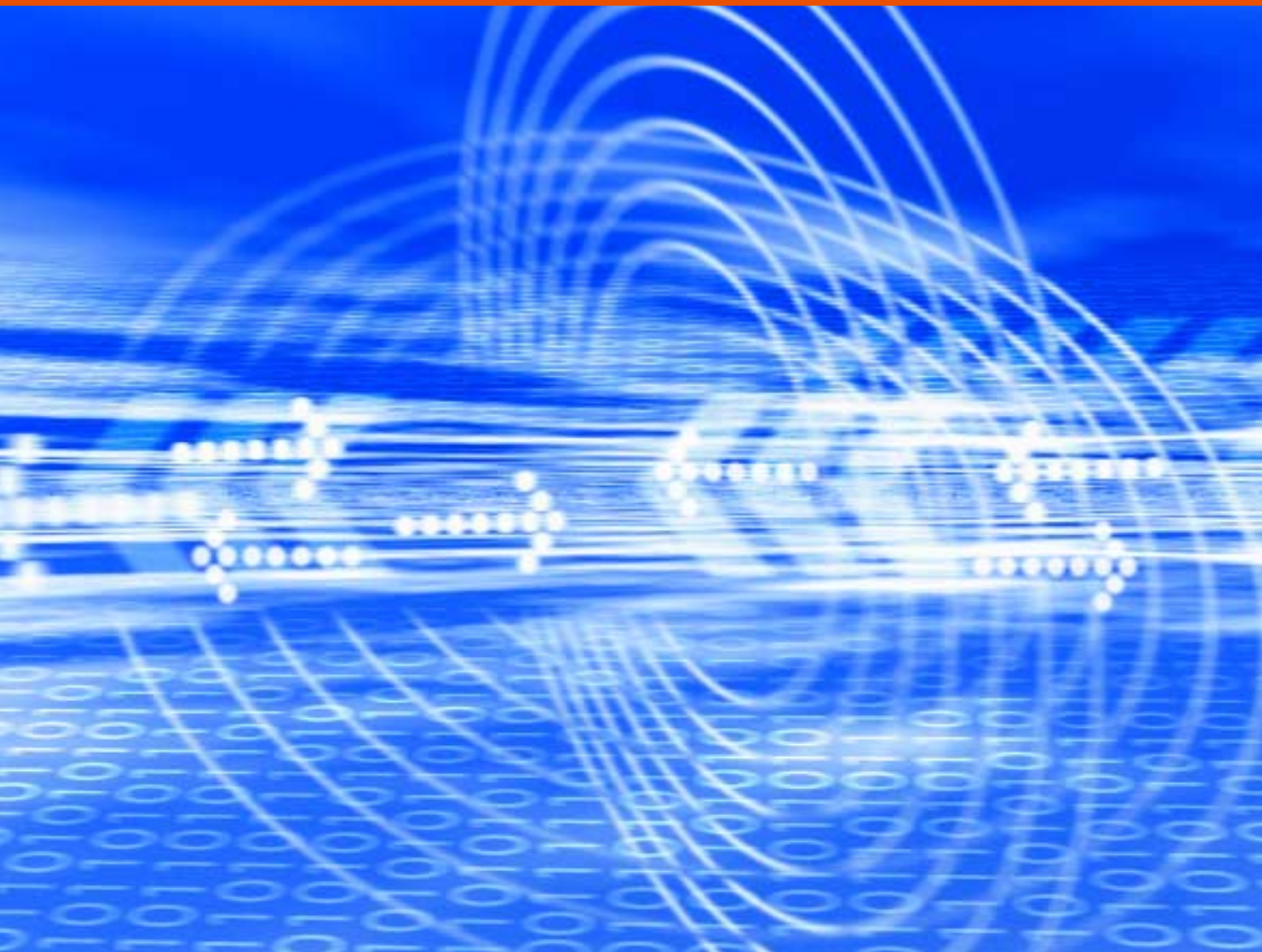


# Driving Real Value in Real Time

Optimizing the retail value chain



A Supplement to Fairchild's Executive Technology



# Helping retailers reduce complexity, reduce variability and increase visibility



## **Solution Profile: Allocation and Replenishment**

**Company:**  
Barnes & Noble

**Company Overview:**  
More than 900 book stores in the United States, each carrying 1.2 million titles.

**Challenge:**  
Improve accuracy of forecasting, intelligence of inventory planning, efficiency of logistics planning, and optimize replenishment planning.

**Solution:**  
i2 Supply Chain Planner  
i2 Inventory Planner  
i2 Demand Planner

**Benefits:**  
Improved forecast accuracy from 60% to 75-80%.  
Realized significant savings through inventory reduction while maintaining target service levels.

Retail is a complex business—and it won't be getting simpler anytime soon. The retail equation is well known: getting the right product in the right amount to the right store at the right price at the right time. Only by optimizing across the dimensions of product, price, store, quantity, time and customers can a retail enterprise achieve a sustainable growth in revenues and profits.

Every retailer has strived to find a way to optimize its business—to improve the company's performance by synchronizing supply and demand for each store, each sku, each day. Yet optimizing the end-to-end retail value chain has proven very challenging, and the industry still suffers from a number of significant issues, including:

- High stockouts
- High inventories
- High landed costs to the shelf
- High markdowns
- Ineffective promotions
- Non-targeted assortments
- Non-optimized asset utilization

These issues hurt revenues, profits, and result in a poor return on assets (ROA) performance. They also prevent the retail enterprise from operating at its optimum level.

## **The problem: Identifying the root causes of retail challenges.**

According to Bernard Goor, Vice President - Retail, for i2 Technologies, Inc., there are three key reasons that these particular retail challenges have developed. "The retail world is now characterized by high complexity, high

variability, and low visibility," says Goor. "This has created an environment that thwarts most attempts to improve the retail performance."

*High complexity* is a result of the multiplication of retail formats, categories and supply chains, combined with the increasing trends toward globalization and consolidation.

*High variability* affects both demand and supply. Variability of demand results from changing consumer buying patterns, competitive conditions and external factors. Variability of supply is caused by sourcing, transportation, distribution and handling constraints as well as vendor performance.

*Low visibility* comes from a lack of integration within the enterprise and through the value chain, resulting in a lack of visibility of demand forecasts, supply plans, orders, shipments and inventories on the part of both suppliers and retailers.

The message, says Goor, is clear: in order to improve their performance, retailers must reduce complexity, reduce variability and increase visibility.

"The potential cost savings to be gained through better strategic sourcing and supply chain execution are enormous and can significantly impact a company's competitive position."

– Pierre Mitchell, Senior Analyst, **AMR Research**

## The answer: Optimizing the retail value chain

So how can retailers reduce complexity, reduce variability and increase visibility? "By optimizing the end-to-end value chain," says Goor.

Optimizing the retail value chain means synchronizing demand and supply by balancing sourcing, transportation, distribution and store capacity against the product flow required to satisfy the consumer demand at the lowest cost possible. This is a process that requires:

1. Integration within the retail enterprise between planning, execution and monitoring.
2. Collaboration and integration between the retailers and their vendors in the areas of demand forecasts, supply plans, orders, shipments and inventories.

Optimizing the value chain by synchronizing supply and demand is critical to the performance improvements of the retail industry—and is the focus of the work being done by i2 Technologies.

Other industries—such as the high tech, automotive, and soft goods industries—have suffered from the same root causes as retail: high complexity, high variability and low visibility. i2 has been able to significantly improve the performance of its customers in those industries by implementing robust and scalable optimization solutions, and is now working to replicate this success in retail.

## How to optimize the retail value chain

Optimizing the retail value chain is not a single event, but a continuous process that requires the iterative integration of multiple phases across planning and execution.

### *Strategic Planning*

The goal of strategic planning is to configure the value chain in order to improve the flow of products to the consumers. First of all, retailers can optimize their vendor base and their sku base by gaining visibility of their global purchases and by measuring the performance of their vendors. For this, i2 offers its Strategic Sourcing solution.

It is also important for retailers to optimize their sourcing and distribution network and their transportation network. "The network of vendor supply points, distribution centers and stores needs to be optimized to maximize the throughput at the store level. And the transportation contracts need to be renegotiated to optimize transportation costs and cycle times based on the optimized network," explains Goor.

i2's Transportation and Distribution solution provides the tools to enable retailers to optimize their sourcing and distribution network as well as their transportation costs and cycle times.

Using these tools has given Shaw's Supermarkets—which operates a chain of 185 stores in the Northeastern U.S.—a savings opportunity of more than \$2 million in transportation and distribution costs.

## Solution Profile: Transportation & Distribution

Company:  
Shaw's Supermarkets

Company Overview:  
–185 stores in the Northeastern U.S.  
–30,000 employees  
–Over \$4 billion in annual sales

Challenge:  
The closure of two of the company's distribution centers and changes in third-party distribution locations prompted Shaw's to re-evaluate transportation alternatives and store/distribution center alignments.

Solution:  
i2 Supply Chain Strategist

Benefits:  
Optimized volume between suppliers of fast moving items and offered a savings opportunity of more than \$2 million in transportation and distribution costs.

## Solution Profile: Merchandising Optimization

Company:  
Payless Shoe Source

Company Overview:  
–North America's #1 footwear retailer  
–4,900 stores in U.S.  
–\$3 billion in annual sales

Challenge:  
The inability to accurately target customers created excess inventories in some products, creating higher markdowns, poor inventory turns and unsatisfied customers.

Solution:  
i2 Merchandise Planner

Benefits:  
Replaced a legacy system with a true planning system that has simplified the planning process while significantly improving utilization of working capital.

**Solution Profile:  
Supply Planning**

**Company:**  
VF Corporation

**Company Overview:**  
–Largest publicly held apparel company in the world  
–Approximately \$5.5 billion in annual sales  
–The largest SCP planning model in i2 history  
–3.1 million records processed daily

**Challenge:**  
Mature markets with declining growth rates; relentless margin pressure; retail consolidation resulting in fewer partners becoming more and more meaningful; retail partners building own brands; segmentation driving proliferation of choice.

**Solution:**  
i2 Supply Chain Planner

**Benefits:**  
Inventory reduction of \$145 million among business units utilizing i2 tools while maintaining our current levels of service.

**Solution Profile:  
Price and Revenue Optimization**

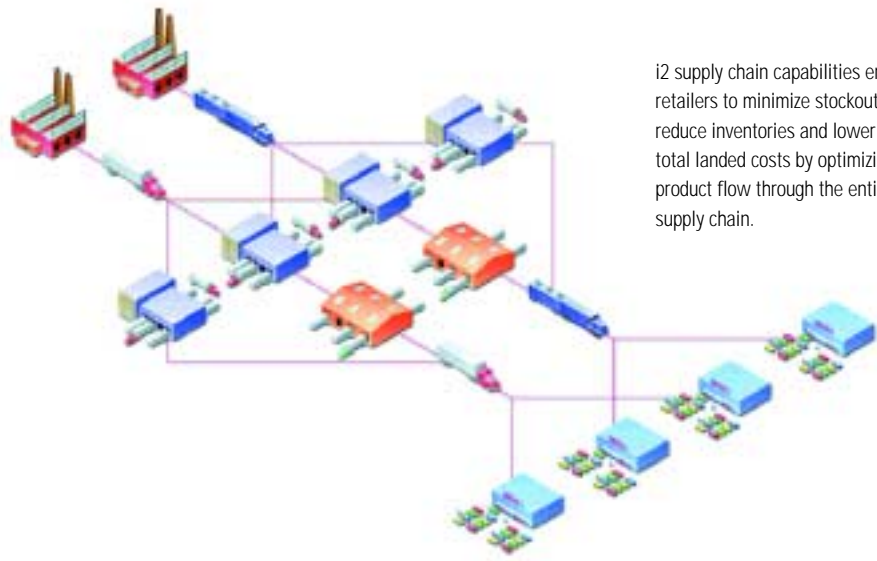
**Company:**  
Best Buy

**Company Overview:**  
–Nation's #1 specialty retailer  
–480 stores – 660 projected by 2005  
–\$15.3 billion in revenues

**Challenge:**  
Enable Best Buy merchants to manage a product's life cycle to a specific end date and deliver more profitable transitions by improving markdown executions.

**Solution:**  
i2 Markdown Price Optimizer

**Benefits:**  
–Reduces margin degradation  
–Provides higher capture rates  
–Reduces inventory  
–Allows markdowns at a location level



i2 supply chain capabilities enable retailers to minimize stockouts, reduce inventories and lower the total landed costs by optimizing product flow through the entire supply chain.

**Operational Planning**

The goal of Operational Planning is to reduce the impact of supply and demand variability. Retailers must integrate plans—from financial planning, demand forecasting, merchandise planning and category management to assortment planning, space optimization and allocation.

This is the role of the i2 Merchandising Optimization solution. It enables a retailer to deploy a single solution that integrates forecasts and plans. Payless Shoe Source credits the i2 Merchandising Planner with simplifying its planning process while significantly improving the utilization of the company's working capital.

While building their plans, retailers will need to constantly react to changes in demand and supply. "This constant variability of demand and supply creates mismatches at the store/sku level that impact the retailers' performance," says Goor.

In order to drive demand, retailers need to look at optimizing their pricing. Optimizing retail prices through the lifecycle of the products is critical to balance demand and supply and to improve performance—and i2's Price and Revenue Optimization solution can help.

For example, i2 Markdown Price Optimizer has allowed Best Buy to reduce margin degradation, enjoy higher capture rates, reduce inventory and offer markdowns at a location level.

Equally important is the ability to adjust supply to match demand. Retailers need to integrate supply constraints into their plans. "Building plans without understanding whether you have the adequate sourcing, distribution or transportation capacity over multiple planning periods does not give you any assurance that you will be able to execute those plans," says Goor. "Matching the capacity to your product flow across the network is critical." Goor points out that retailers need to be able to react to supply and demand mismatches by understanding the supply capacity of their vendors and distribution network, and by optimizing their inventory positions accordingly.

This is the value of the i2 Replenishment, Supply Planning and Strategic Sourcing solutions, together with the collaborative technology imbedded in Demand Collaboration/CPFR and Supply Collaboration. Using tools such as the i2 Supply Chain Planner has enabled Barnes & Noble to improve its forecast accuracy from a level of 60% to levels approaching 80%. The company has also realized significant savings through inventory reduction while maintaining target service levels.

By integrating their plans, matching supply to demand and collaborating with their vendors, retailers can continuously optimize their value chain.

“Improved supply chain planning is at the heart of the new economy, and i2 is at the heart of the supply chain planning. In many ways this company can be considered the brains behind a landmark change in the world of business.”

– **The Motley Fool**, January 2001

i2 Retail Solutions	Capabilities
Merchandising Optimization	Demand Planning Profiling Demand Collaboration/CPFR Merchandise Planning Assortment Planning Shelf Space Optimization
Allocation and Replenishment	Merchandise Allocation Replenishment Planning
Price and Revenue Optimization	Category Price Optimization Promotion Planning Markdown Price Optimization
Strategic Sourcing	Strategic Sourcing Negotiation Contract Management
Product Sourcing	Product Design & Development Product Sourcing
Supply Planning	Supply Chain Planning Supply Collaboration
Purchase Order Management	Distributed Order Management Order Collaboration Procurement
Transportation and Distribution Management	Network Optimization Transportation Procurement Transportation Optimization Transportation Management Warehouse Management
Supply Chain Event Management	Event Management
Customer Order Management	Distributed Order Management Demand Fulfillment
Data Management	Retail Business Configuration Management
Infrastructure Services	Messaging and Data Integration Role-based Portals Network Services



**Solution Profile:  
Allocation and Replenishment**

Company:  
Dillard's

Company Overview:  
–Third largest upscale department store chain in the United States.  
–Over \$8 billion in annual sales.  
–340 stores and 7 distribution centers in 29 states.

Challenge:  
Improve customer service and increase full-price sales; optimize inventory turns; increase efficiency; improve decision making; improve inventory management.

Solution:  
i2 Demand Planner  
i2 Replenishment Planner

Benefits:  
Though still in the implementation process, the i2-based solution is expected to improve planning systems and processes, enabling Dillard's to minimize lost sales and increase inventory turns.

"TaylorMade-adidas Golf, for example, is using i2 software to let retailers buy products, check inventories, process invoices, view order status and jointly develop sales forecasts and merchandising plans. Rob McClellan, senior e-business project manager at the Carlsbad (Calif.)-based company, predicts that the software will save 'millions of dollars a year in reduced inventory,' and help its retailers sell more golf clubs."  
– **Business Week**, June 4, 2001



### **Solution Profile: Transportation and Distribution**

**Company:**  
J.C. Penney

**Company Overview:**  
–1,080 J.C. Penney department stores in the U.S., Puerto Rico and Mexico  
–Approximately 270,000 associates

**Challenge:**  
Find optimization software capable of: recognizing extensive retail and catalog consolidation networks; processing 40,000 origin/destination pairs within six hours; and able to be reconfigured relatively easily as logistics network changes dictate.

**Solution:**  
i2 Transportation Manager  
i2 Transportation Optimizer

**Benefits:**  
Improving efficiency of transportation routings by moving from a static to dynamic routing environment; contributing to reduced replenishment time by bypassing segments of own transportation network where possible.

### **Execution**

With optimized plans in place, distribution or vendor orders are triggered at the appropriate time from Allocation and Replenishment to start the execution chain. i2's Purchase Order Management solution provides the ability to capture, validate, approve, create and maintain the orders in a Web-enabled, distributed environment. i2's Transportation and Distribution solution then enables the retailers to place, optimize and manage the transportation orders from origin to destination.

"The 'holy grail' for retailers is to integrate plans to orders and shipments in one continuous process and to monitor the execution of orders and shipments so they can re-plan dynamically in as close to real time as possible," explains Goor.

This is where i2's Supply Chain Event Management solution will be critical. It will enable retailers to maintain visibility of their orders, inventories and shipments so they can adjust their plans and keep synchronizing demand and supply by, for example, adding or canceling orders, rerouting shipments or changing their markdowns and promotions.

### **i2: Helping retailers boost revenues and profits**

Optimizing the retail value chain will require the integration of the retail workflows within the retail enterprise and the extension of those workflows to external partners. The retail workflows can be integrated using i2's infrastructure services. Collaboration between enterprises is also supported by the collaboration framework and by the network services platform which provides trade-partner connectivity and message translation services.



Integrating planning, execution and monitoring to optimize the retail value chain and to synchronize supply and demand: that is clearly the mission of i2 Technologies in retail.

"We focus on partnering with our customers to make them successful and drive value to their business," concludes Goor. "And we look forward to continuously expanding our partnerships with leading retailers going forward."

**4/C AD**  
**Intel**



## i2 and Intel: An effective team.

*Working with world-class organizations is one more way we create superior business solutions for our customers. One of those organizations is Intel®. Their relationship with i2 helps us deliver the exceptional value chain solutions that our customers expect.*

Intel and i2 are working together to enable manufacturers and retailers to achieve new standards for product value, time-to-market and return-on-investment.

Intel-based platforms extend the reach of i2 solutions because the price and performance of Intel architecture allows large companies to deploy i2 solutions more broadly and extends the opportunity for deploying i2 solutions to medium size businesses. That's particularly important today, when IT budgets are tighter than ever.

All of i2 solutions will run on Microsoft® Windows® 2000 for the Intel Xeon™ Processor. Additionally, i2 and Intel are working closely to migrate i2 products to run on Intel Itanium® 2 processor-based servers. The Itanium 2 processor allows customers with extremely large data models (greater than 2GB) to run effectively without having to redesign the way they use their i2 product.

The advantages offered by the close working relationship between i2 and Intel have prompted a number of leading global customers to implement i2 solutions on Intel, including Dell, Siemens Business Services and Legend.

For more information on the groundbreaking alliance between Intel and i2, visit [www.intel.com/go/i2](http://www.intel.com/go/i2)



## About i2

i2 is the leading provider of value chain management. i2's value chain management solutions help companies plan and execute all of the activities involved in managing supply and demand. These solutions span the entire scope of value chain interaction, including demand chain management, supply chain management and supplier relationship management. Established in 1988, i2 is the only software solutions provider that measures, audits and reports total value provided to its customers, with a mission to deliver \$75 billion in value by 2005. Learn more at [www.i2.com](http://www.i2.com). i2 is a registered trademark of i2 Technologies Inc. and its subsidiaries.

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