

Supplier Alliances in the Supply Chain

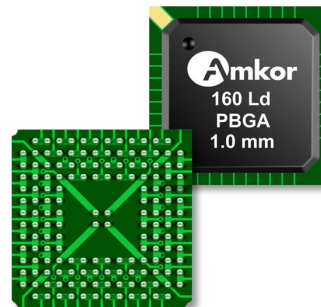
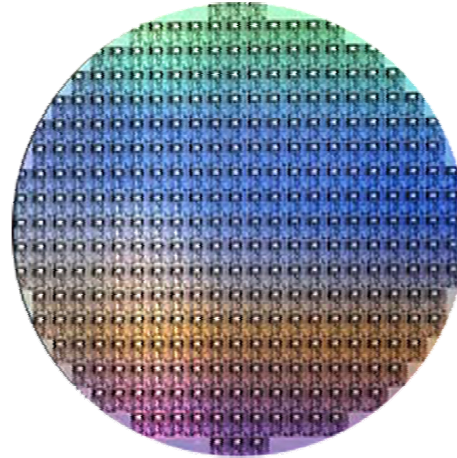
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for NAPM

June 8, 2000

AGENDA

- ◆ Who is Amkor?
- ◆ Our Supply Chain Strategy
- ◆ Supplier Alliances
- ◆ Our Results
- ◆ Conclusion



Company Profile

- ◆ **Founded in 1968**
- ◆ **U.S. Company with global presence**
- ◆ **World's largest semiconductor packaging and test company**
 - 28% CAGR over the last five years
 - 1999 Revenues of almost \$2 billion
 - Over 22,000 employees worldwide
 - 3x the capacity and revenues of nearest competitor
- ◆ **Three factories in the Philippines and four in South Korea**
- ◆ **Offer wafer fabrication services through \$1.2 billion wafer foundry in South Korea**



Amkor is the Undisputed Leader

- ◆ **Market Share:** >30% of worldwide outsourced semiconductor packaging
- ◆ **Technology:** 30% worldwide market share of outsourced laminate-based BGA products
- ◆ **Production Run-Rate:** 4 billion chips annually
- ◆ **Customer Base:** More than 150, including 36 of the 40 largest semiconductor companies
- ◆ **One-Stop Shop:** Wafer foundry, packaging and test

Amkor's Supply Chain Strategy

- ◆ **Yes, we wanted one**
- ◆ **Started on the demand side by focusing on primary, tier 1 customers**
 - Concentrated on better information
 - Needed to improve responsiveness
- ◆ **Evolved into supply side, tier 1 suppliers**
 - Compressed cycle times
 - Improved supplier interactions



What's the Need?

- ◆ **Assembly industry has seen many changes**
- ◆ **Significant impact on Amkor's business**
- ◆ **Supply chain needs to work together to meet the challenges**
- ◆ **Lot size = "1" - customization**
- ◆ **Started the SCM quest 18 months ago**
- ◆ **Shared SCM strategy with supply base**



Typical Supply Chain Obstacles to Overcome

- ◆ Lack of executive sponsorship
- ◆ Lack of focus on the customer
- ◆ Lack of a clear, concise, and appropriate supply chain strategy
- ◆ Lack of understanding of overall supply chain dynamics and economics
- ◆ Business information not organized and distributed to all supply chain partners to facilitate strategic use
- ◆ Difficulty in revamping organization and culture
- ◆ The deadly inertia created by the accepted way of doing things

Customer Expectations

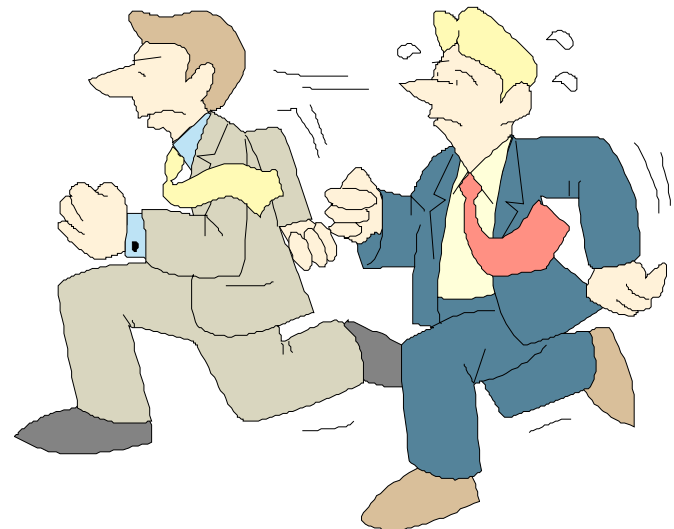
Customers are never satisfied, always demanding, and all consuming

- Want customized products
- Want rapid order fulfillment
- Want high quality and low prices
- Want buying convenience
- Want what competitors offer
- Are not always willing to share forecast or other planning data



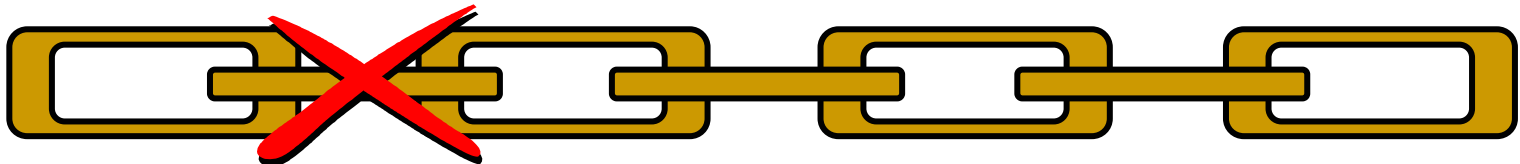
The Company (culture) Challenge

- ◆ The challenge is to develop ways to implement customer-focused, value-generating strategies when industry service experiences are constantly resetting customer expectations
- ◆ The challenge is to utilize **best practices** when implementing strategies



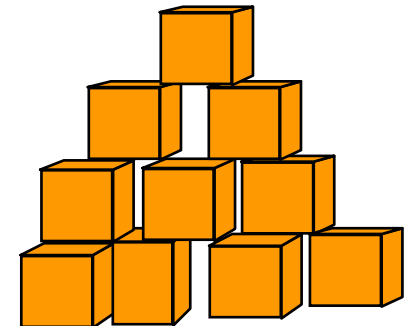
The Supply Chain Challenge

- ◆ Supply chains are comprised of multiple parties, complex flows, and significant investments
- ◆ Their focus should be on optimization of material, service, information, and financial flows in creating value
- ◆ **Best practices** assures supply chains will be key levers for creating value for their customers
- ◆ Chains are only as strong as their weakest link!



Supply Chain Realities on the Supply Side

- ◆ **Suppliers typically control delivery schedules and material costs**
- ◆ **Operational problems can exist**
 - Operate asynchronously with customers
 - Slow communications
 - Long fulfillment lead times
 - Inflexible to change requests
 - Carry excess inventories
 - May be a constraint



Supply Chain Contributions Improved by...

- ◆ Collaborative planning, forecasting, and replenishment (CPFR) rather than individual partner planning
- ◆ Synchronizing activities of all trading partners through fast, accurate, and current information availability



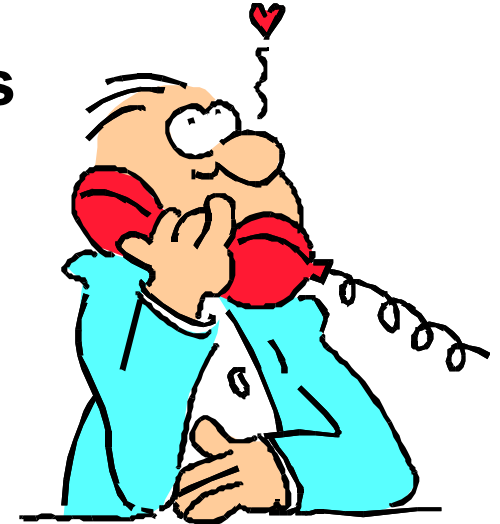
Requirements for Success

- ◆ Effective organizational, managerial, operational, technological, and informational relationships
- ◆ Focus, commitment, cooperation, and trust from all the trading partners
- ◆ All partners working toward a common goal - customer **value** generation



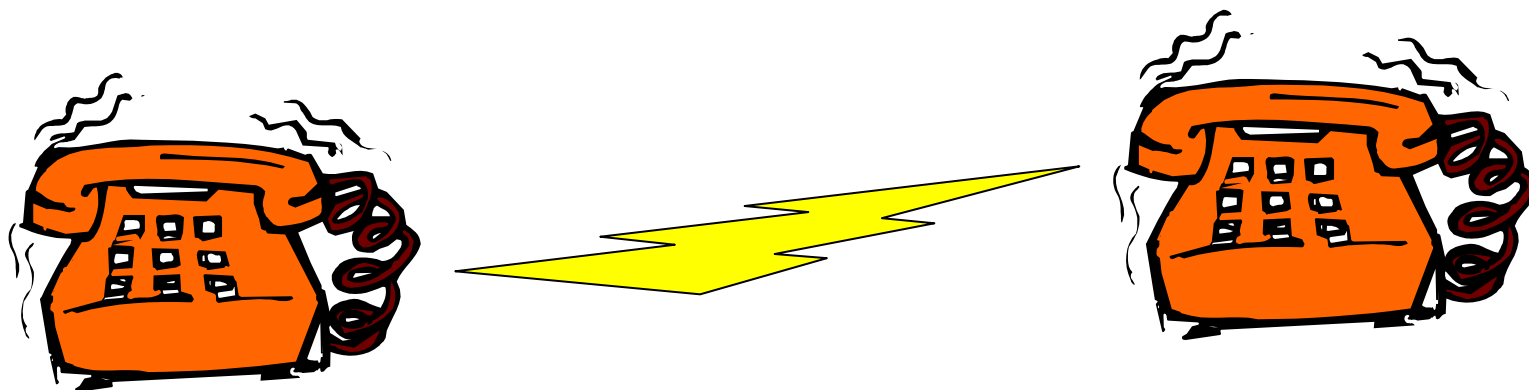
Communications With Trading Partners

- ◆ **Crucial component of relationships**
- ◆ **Enables suppliers to:**
 - Develop more accurate forecasts
 - Build histories of specific products
 - Plan purchases more effectively
 - Streamline distribution
 - Maximize sales by product mix selection
 - Obtain faster results on new products



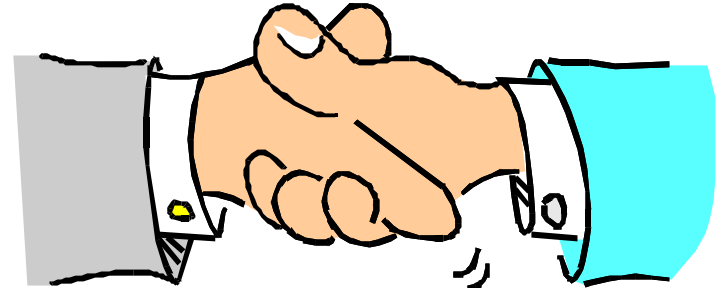
Key Communications Requirements

- ◆ Real time information
- ◆ Global dispersion
- ◆ Secure transmissions among all trading partners
- ◆ Simultaneous sharing by all trading partners
- ◆ **Best practices recommended**



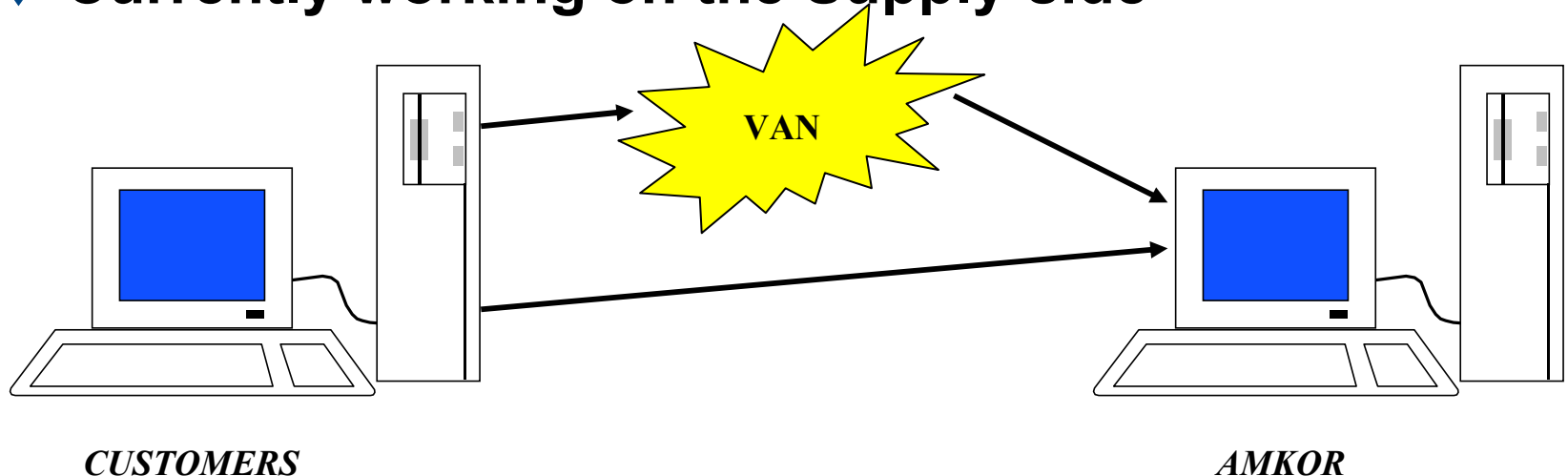
Advantages of Strategic Partnerships

- ◆ Identifies business issues
- ◆ Qualifies sales opportunities
- ◆ Helps understand business trends
- ◆ Develops close working relations
- ◆ Helps align development activities to the customer's development cycle
- ◆ Improves new product success rates



Electronic Connectivity

- ◆ **Concentrated on Demand-side (customers)**
 - Currently with 20 of our top 25 customers (2 more on the horizon)
- ◆ **Use EDI or point-to-point mapping**
- ◆ **Currently working on the Supply-side**



Amkor's current supply chains are one-sided and linear - our goal is much more ambitious!

The 1990s: Linear Supply Chains



“One-to-One Relationships”

Limited B2B integration

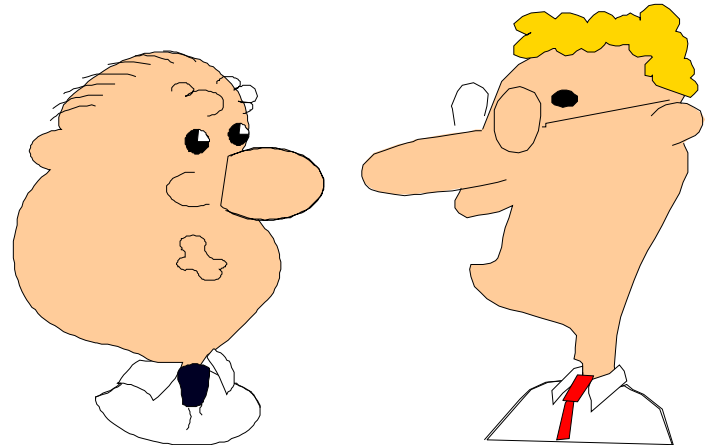
Supplier Alliances

- ◆ **Deploy our Supply Chain Management Strategy**
 - SCM Traveling Road-show
- ◆ **Education of the Masses**
- ◆ **Planted the Win-Win Seed**
- ◆ **Established Commodity Teams/Leaders**
- ◆ **Established Quarterly Reviews**
 - Target prices, performance measurement, quality indicators, issues



Supplier Alliances (cont)

- ◆ Technology Reviews
- ◆ Enhanced Communications
- ◆ “One Face” to Key Suppliers
- ◆ Introduced Vendor Managed Inventory (VMI)
 - Consigned Material
 - Proximity Storage
 - In-plant Stores (Avnet)



VMI

- ◆ **Started “selling” the approach to our suppliers**
- ◆ **Created new corporate agreements between Amkor and our Suppliers**
- ◆ **Defined “standard” versus “non-standard” materials**
- ◆ **Converted old agreements to the new**
- ◆ **Initially implemented consignment and moved into proximity storage as required**
- ◆ **Captured inventory carrying costs savings**

Created Two Types of VMI

◆ Started with consignment

- Our warehouse space
- Our inventory management
- Our warehouse personnel
- Shared forecast information

◆ Blending in proximity warehouses

- 4 weeks of inventory “time buckets”
 - ◆ One in our warehouse - three weeks in theirs
 - ◆ Joint management of inventory levels

Current Status

- ◆ Most suppliers signed up in Philippine factories
- ◆ Maybe too many! (Use 80/20 rule)
- ◆ Enhanced agreements are in place
- ◆ Progress in high dollar value items
- ◆ Ready to enter agreements in Korea



What Works - What Doesn't!

Good

Win-Win

Selling

Collaboration

Cooperation

Recognition

Bad

Win-Lose

Forcing

Dictating

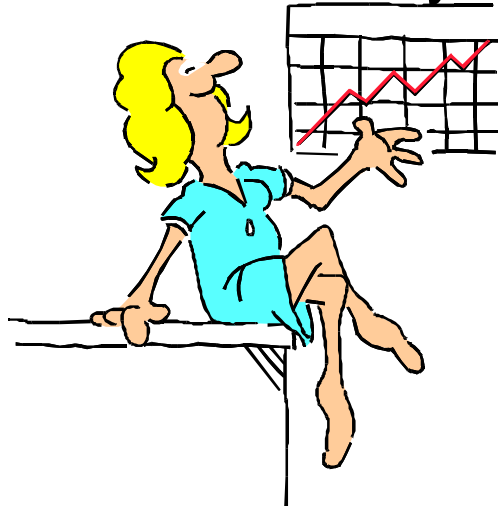
Leverage

Recognition

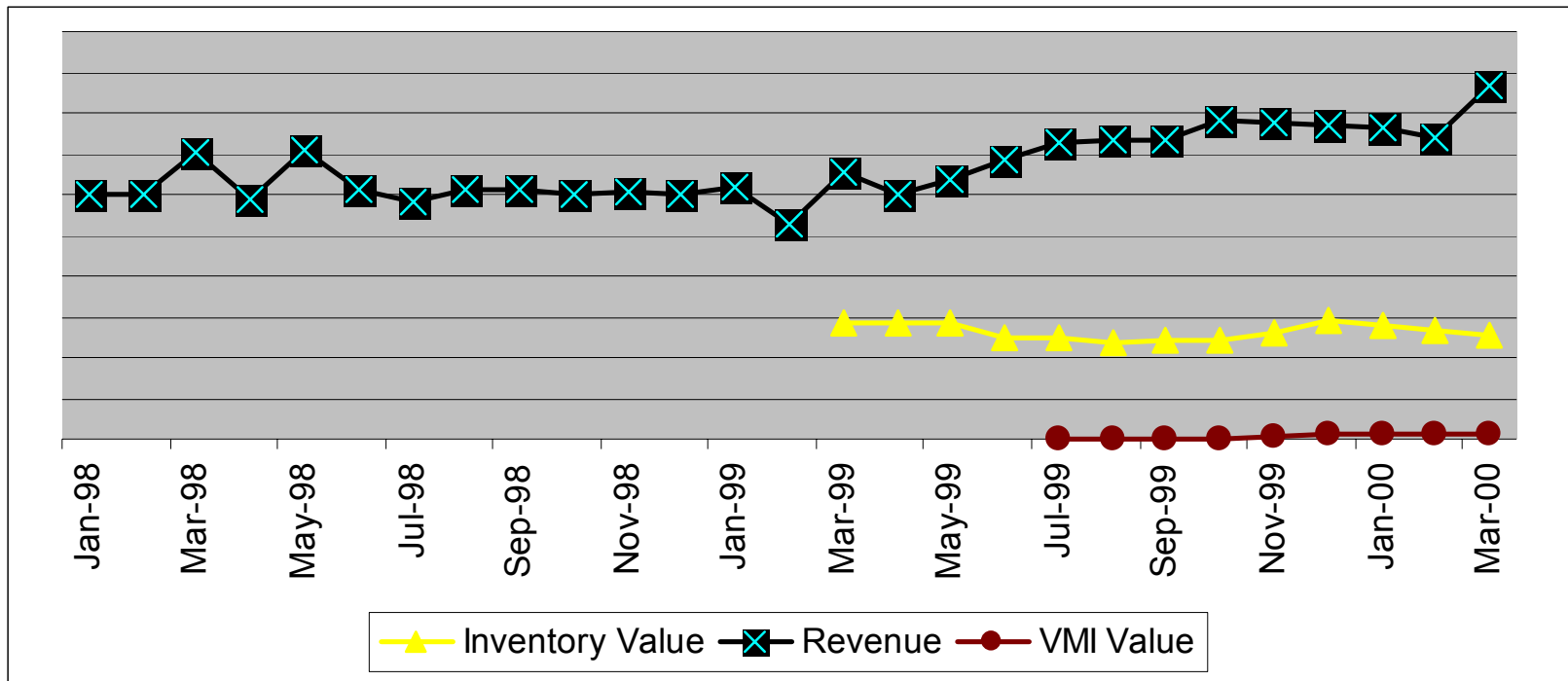
Our Results

◆ Success in the Trenches

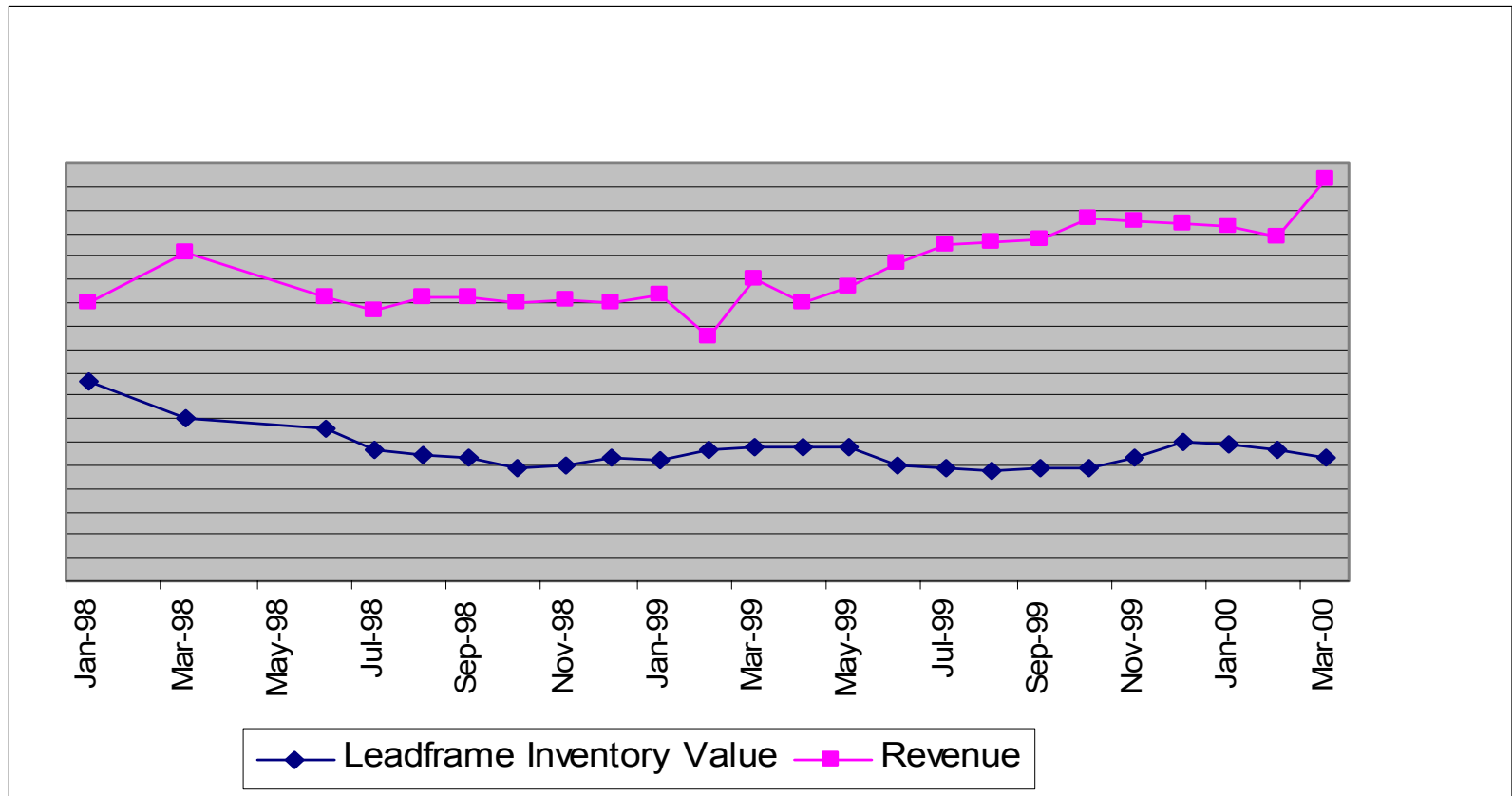
- Lead-time for critical commodities reduced from 4-6 weeks to 2 weeks
- Target costing resulted in >10% reductions across all commodities
- Reduced/maintained inventory through VMI programs



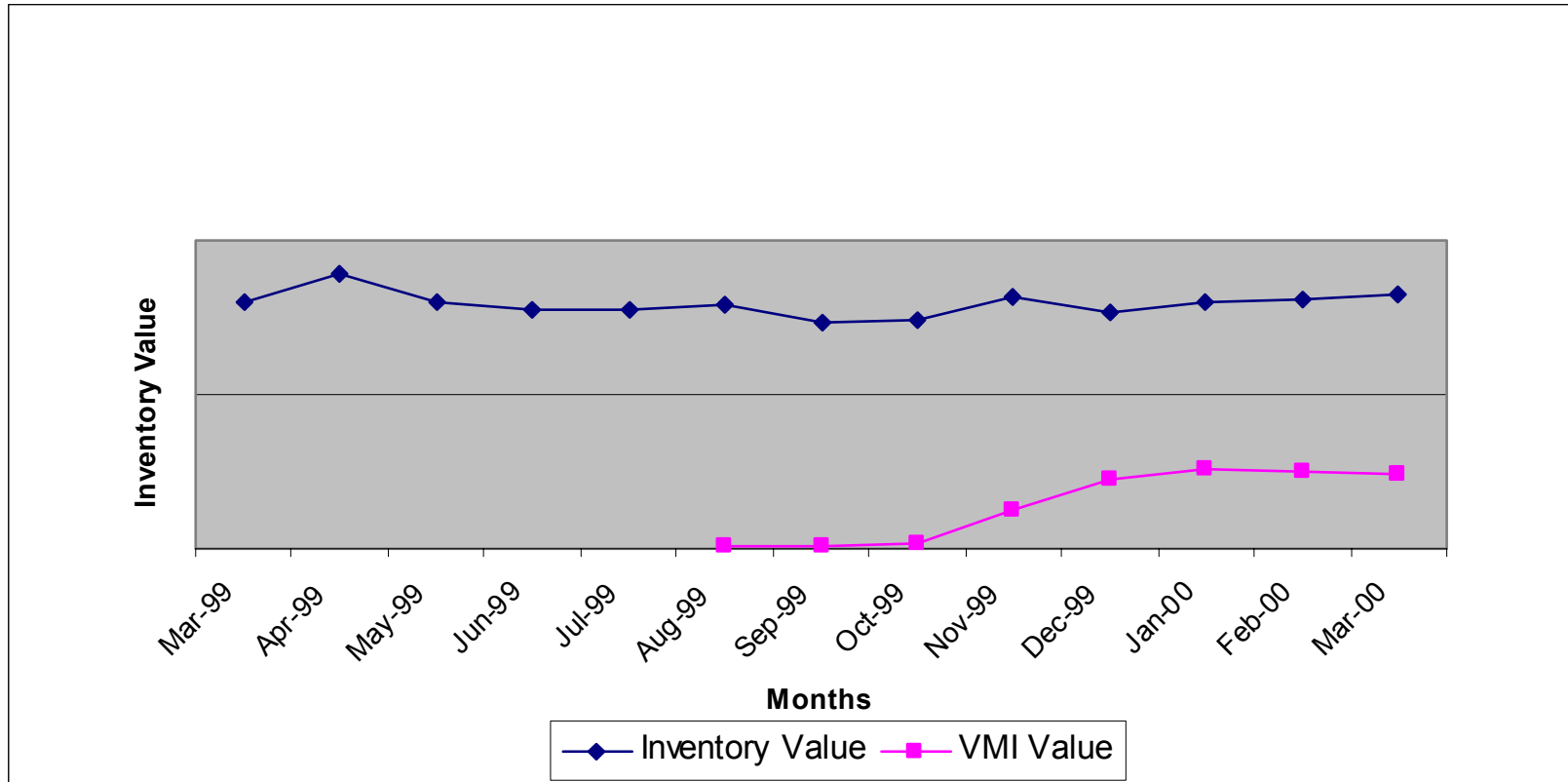
Revenue to Inventory to VMI



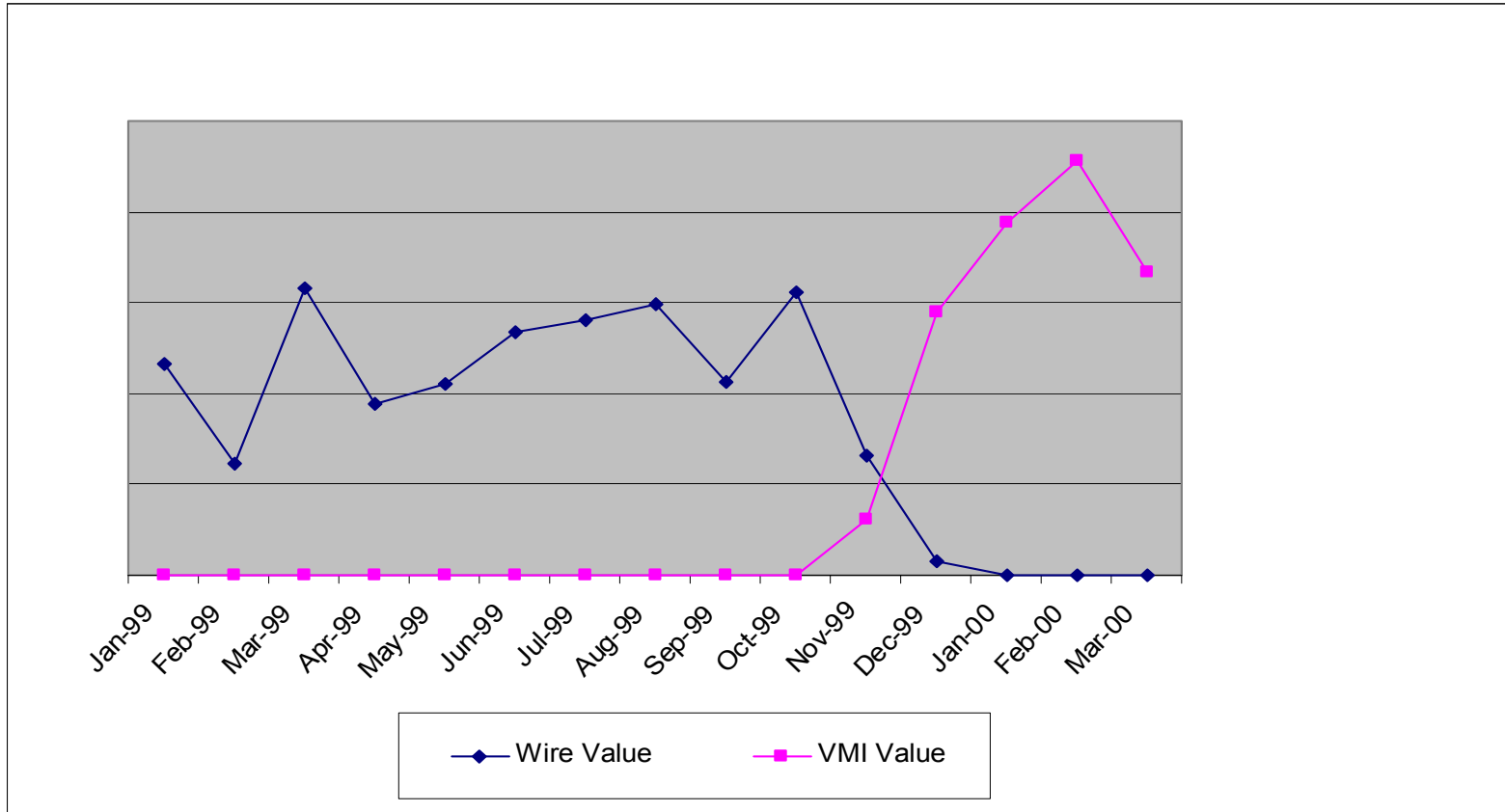
Total Leadframe Inventory to Revenue



P3 Leadframe Inventory to VMI

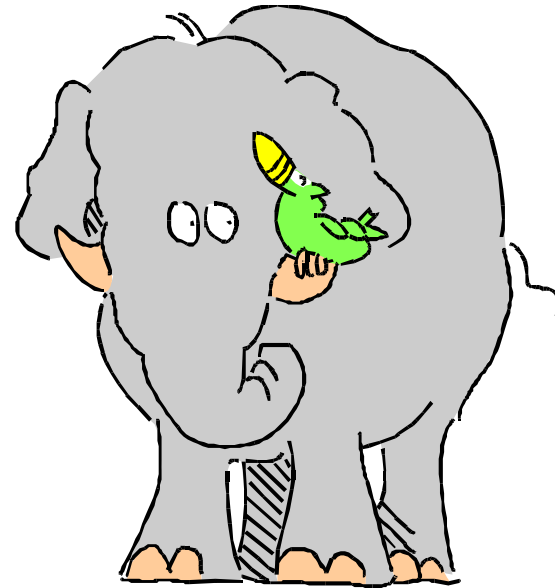


P3 Gold Wire Inventory to VMI



Challenges

- ◆ Invoicing (Accounts payable issues)
- ◆ Data transmission
- ◆ Picking the right “stuff”
- ◆ Country limitations
- ◆ Space limitations
- ◆ Open agreements



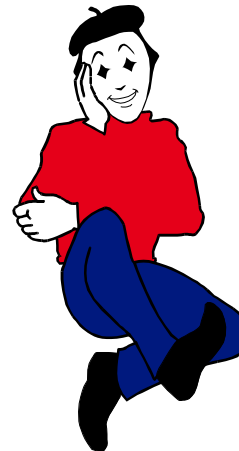
Future Thoughts

- ◆ B2B
- ◆ RossettaNet
- ◆ 4-Way Engagement
- ◆ How to Facilitate
- ◆ Marketplaces
- ◆ CPFR



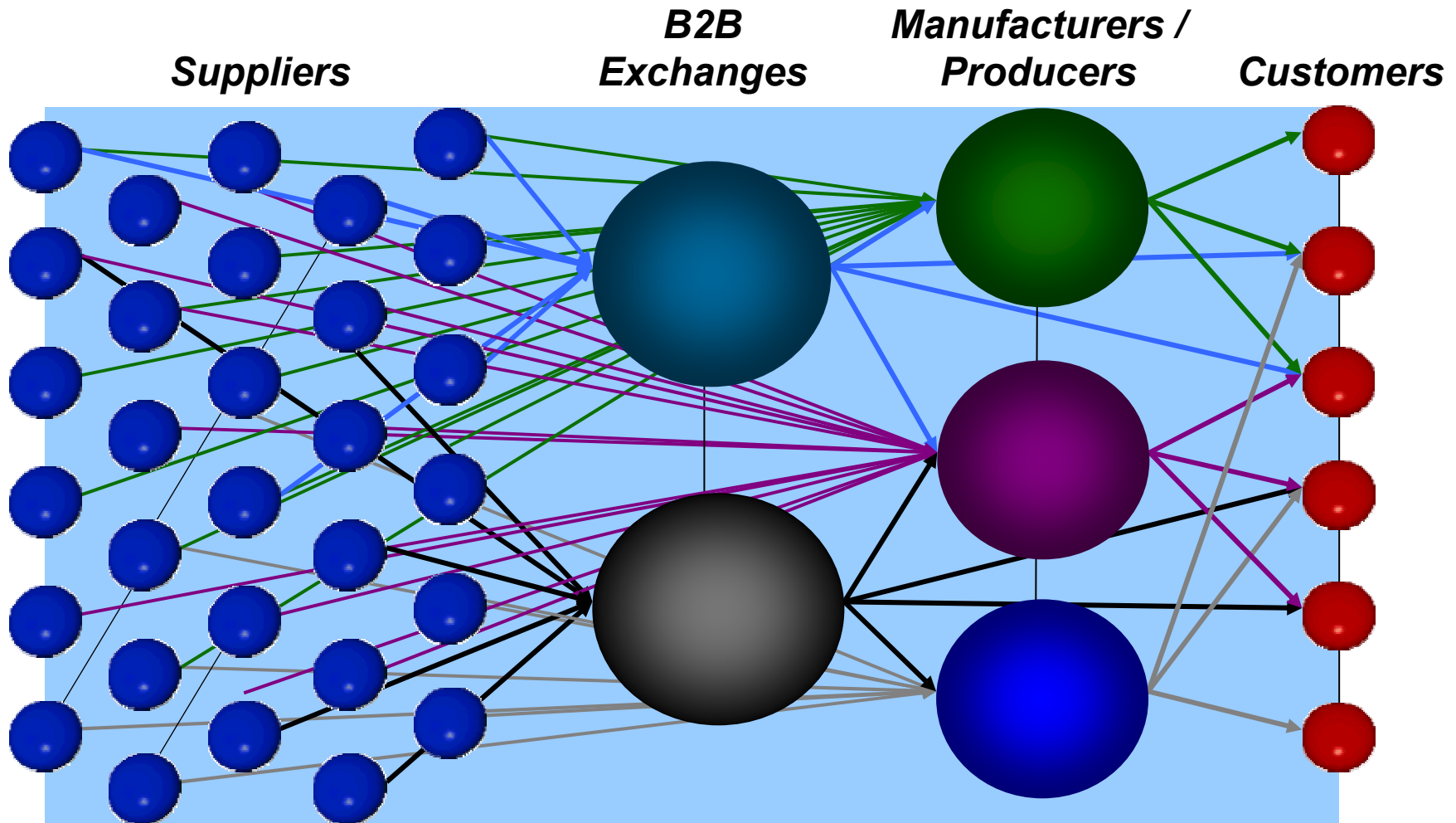
Thoughts to Ponder...

- ◆ Individual supply chains are rapidly becoming replaced by this thing we are calling “B2B - eCommerce Marketplaces”
- ◆ Current B2B marketplaces only capture about 25% of the total value opportunity
- ◆ Both sides of the B2B horizon are equally important to ultimate success



The emergence of B2B eCommerce marketplaces will completely change the game

Future View

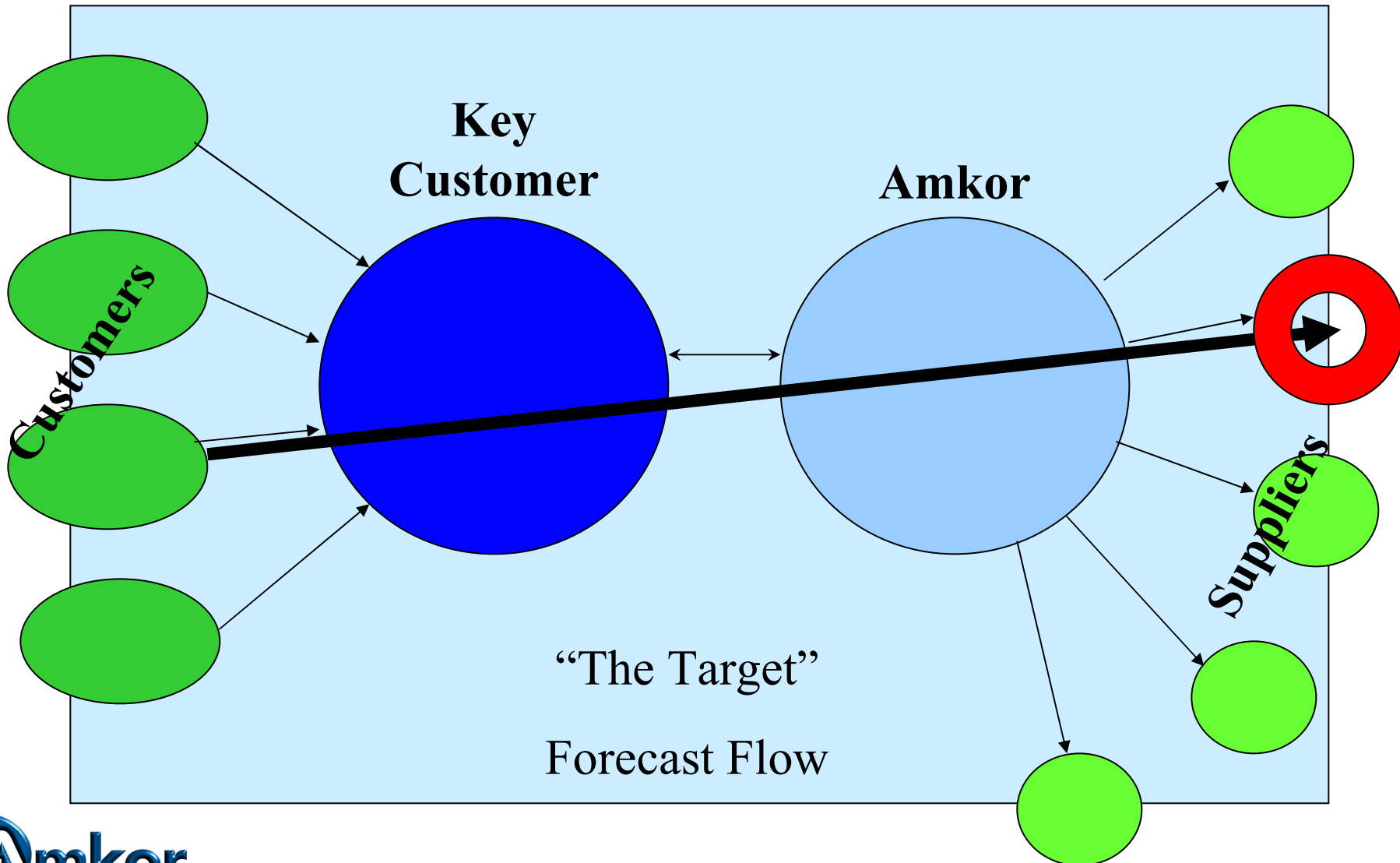


Electronic marketplaces are fundamentally different from traditional supply chains

Supply Chains Versus B2B

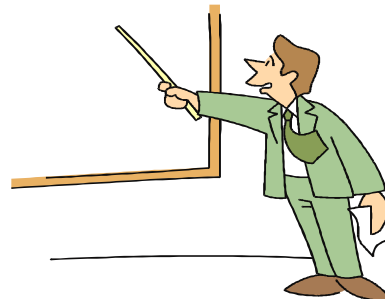
Characteristic	Supply Chains	B2B
Structure	• Linear (“One2One”)	• Networked (“Many2Many”)
Participants	• Closed List	• Open, Changing
Role of Participants	• Static	• Dynamic
Principal Focus	• Cost Reduction/Service	• Growth/”Right-to-Market”
Business Process Design	• Inside-Out	• Outside-In
Technology Foundation	• Enterprise Systems	• Exchange Systems
Role of Product Design	• Largely Ignored	• Integral
Benefits Realized By ...	• Integrating & Optimizing	• Collaborating & Aggregating
Financial Flows	• Sequential	• Collective
Pricing	• Private/Customer-Specific	• Public/Situation-Specific

The Amkor four-way chain



Steps in the Engagement

- ◆ **Develop a vision that can be translated into specific value measuring metrics**
- ◆ **Increase awareness, understanding, and acceptance of supply chain concepts**
 - Gaining support for the supply chain strategy is often the most difficult part of the implementation process
- ◆ **Develop a supply chain model to show how value is actually created**



Steps in the Engagement

- ◆ **Identify value improvement goals and objectives that we all can understand and embrace**
 - Reengineering may be required at this point to improve efficiencies and to attain the goals
- ◆ **Develop a supply chain strategy for increasing values**
- ◆ **Determine our success metrics**
 - Lead time - pipeline inventory reductions
 - Faster time to market
 - Less waste - higher efficiencies

Steps in the Engagement

- ◆ **Involve both ends of the chain in evaluating performance at major steps**
- ◆ **Use information technology to improve the communication system**
- ◆ **Basic process improvements should already be in place. Information technology is then used to:**
 - Facilitate the integration of chain links
 - Add efficiency
 - Speed processes
 - Enable more effective information flow

Steps in the Engagement

- ◆ Provide education and training
- ◆ Promote the attitude that failure is not an option
- ◆ Reward success
- ◆ Utilize **Best Practices** to increase customer value in products and services

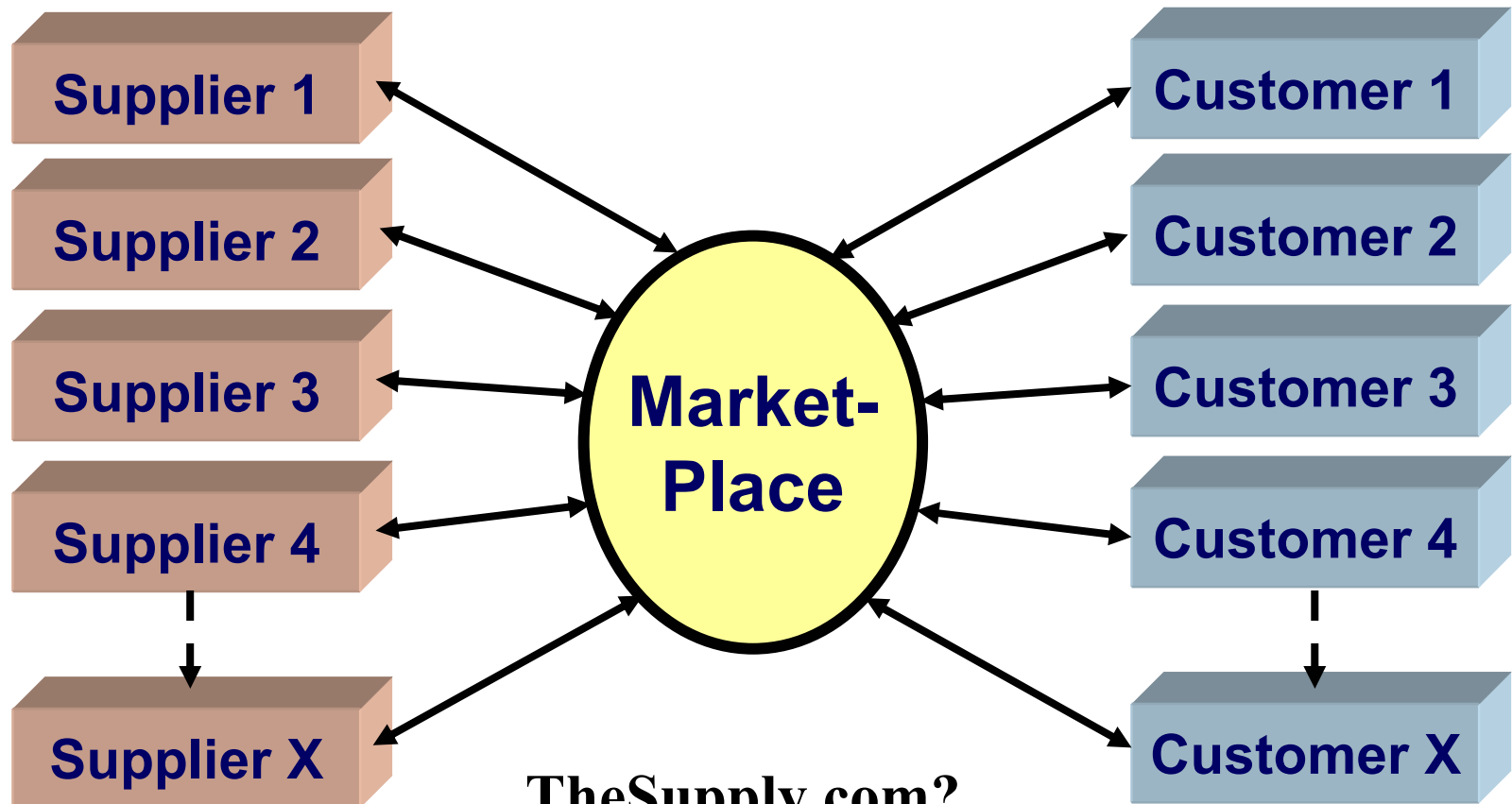


HOW Do We Engage?

- ◆ **Use the NISCI-developed workbench for collaboration and project management**
- ◆ **Use a .com to help facilitate communication OR develop more complete point-to-point infrastructure**
- ◆ **Possibly employ an Extricity-like solution to aid system information manipulations**
- ◆ **Hire a mystic to synthesize the information**

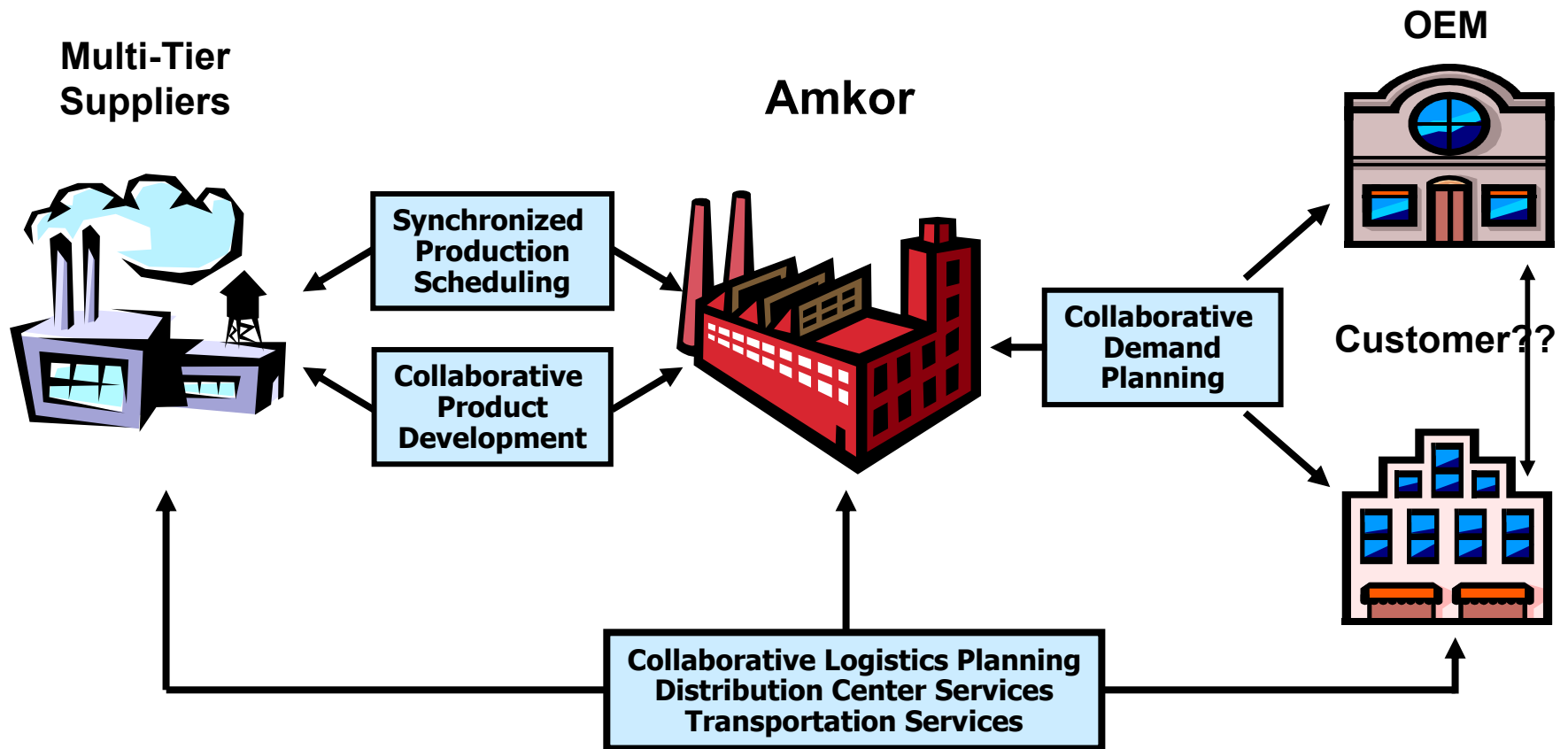
Take advantage of the new B2B Marketplace

Web-based Catalogs



TheSupply.com?

Supply Chain Collaboration Opportunities - CPFR



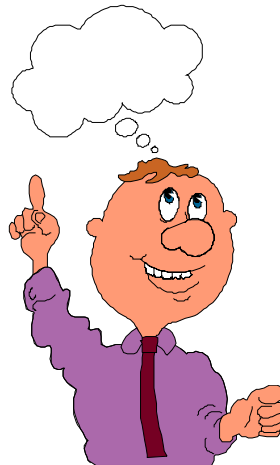
Our Objectives

- ◆ Pipeline inventory reduction
- ◆ Reduced leadtime
- ◆ Accelerated time to market
- ◆ Improved efficiencies
- ◆ Better and faster information!!



Our Thoughts

- ◆ **Competitive battles of the future will be waged between supply chains**
- ◆ **The tighter knit chains will win**
- ◆ **B2B will create the need for internal cultural changes**
- ◆ **Collaboration is here to stay - get over it!**



Conclusion

- ◆ Amkor
- ◆ Our SCM Strategy
- ◆ Supplier Alliances
- ◆ Using VMI as a strategic and tactical tool for success
- ◆ Results & Future visions

