




Transforming the Supply Chain through Collaboration and Adaptation

Cisco Systems
Douglas Bellin

Agenda

- 
- 1. Setting the stage**
 - 2. Evaluation of the Industries**
 - 3. Reasons for a new view**
 - 4. Sharing references and thoughts**
 - 5. Adaptive Supply Chain**

The nature of **innovation**—the inherent definition of innovation—has changed today from what it was in the past. It's no longer individuals toiling in a laboratory, coming up with some great invention. It's not an individual. It's individuals. It's multidisciplinary—it's global. It's **collaborative**

Sam Palmisano
Chairman, President and CEO, IBM

The CEO Perspective...and the CIO Gap

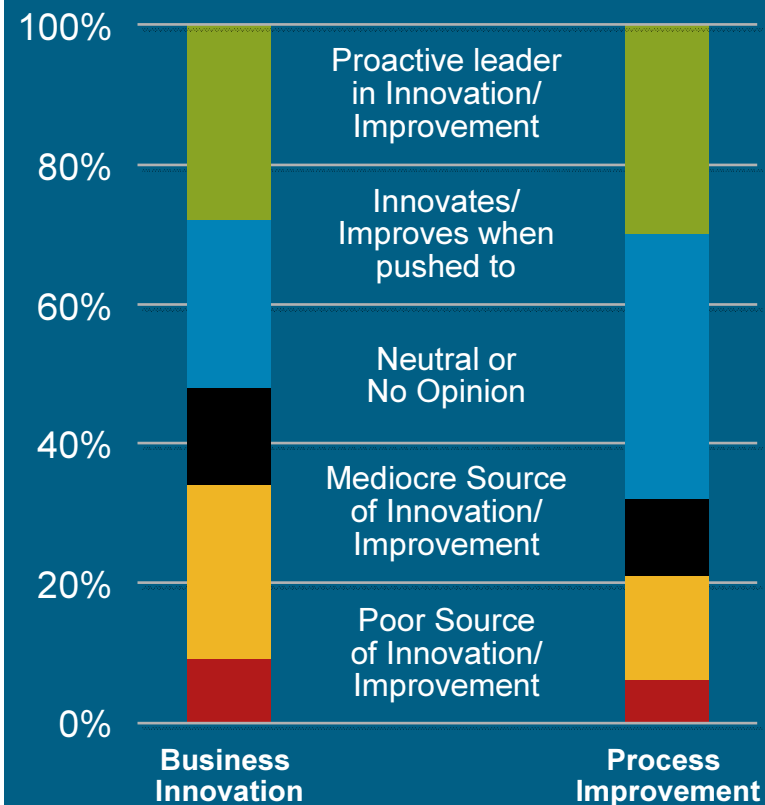
CEOs are expanding the innovation horizon...

CEOs see Business Model Innovation as the means for more lasting differentiation and top-line growth(1)

Essential prerequisites:


- Internal and External Collaboration
 - Partnering outside the organization
- Integration of Business and Technology
 - Beyond alignment

...but they do not view CIOs as proactive business innovators



Source: (1) IBM—CEOs are expanding the innovation horizon; important implications for CIOs, September 2006 (765 CEOs)

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**No two MINIs are exactly alike...
Over 10 million possible configurations**



Almost \$2B in sales of a zero-inventory product (iTunes) and huge demand created with marketing and industrial design



**60,000 people work in P&G Product Supply
from sourcing raw materials to delivering final
product to retail customer partners and consumers**



What Do These Companies Have in Common?



P&G



Continuous Innovation

Customer Focus

Supply Chain Excellence

COLLABORATION

The Future of Manufacturing



“The supply chain is not going to be about buying things. It will be about managing relationships.”

Source: Supply Chain Management 2010 and Beyond, Michigan State Univ., Nov. 2006

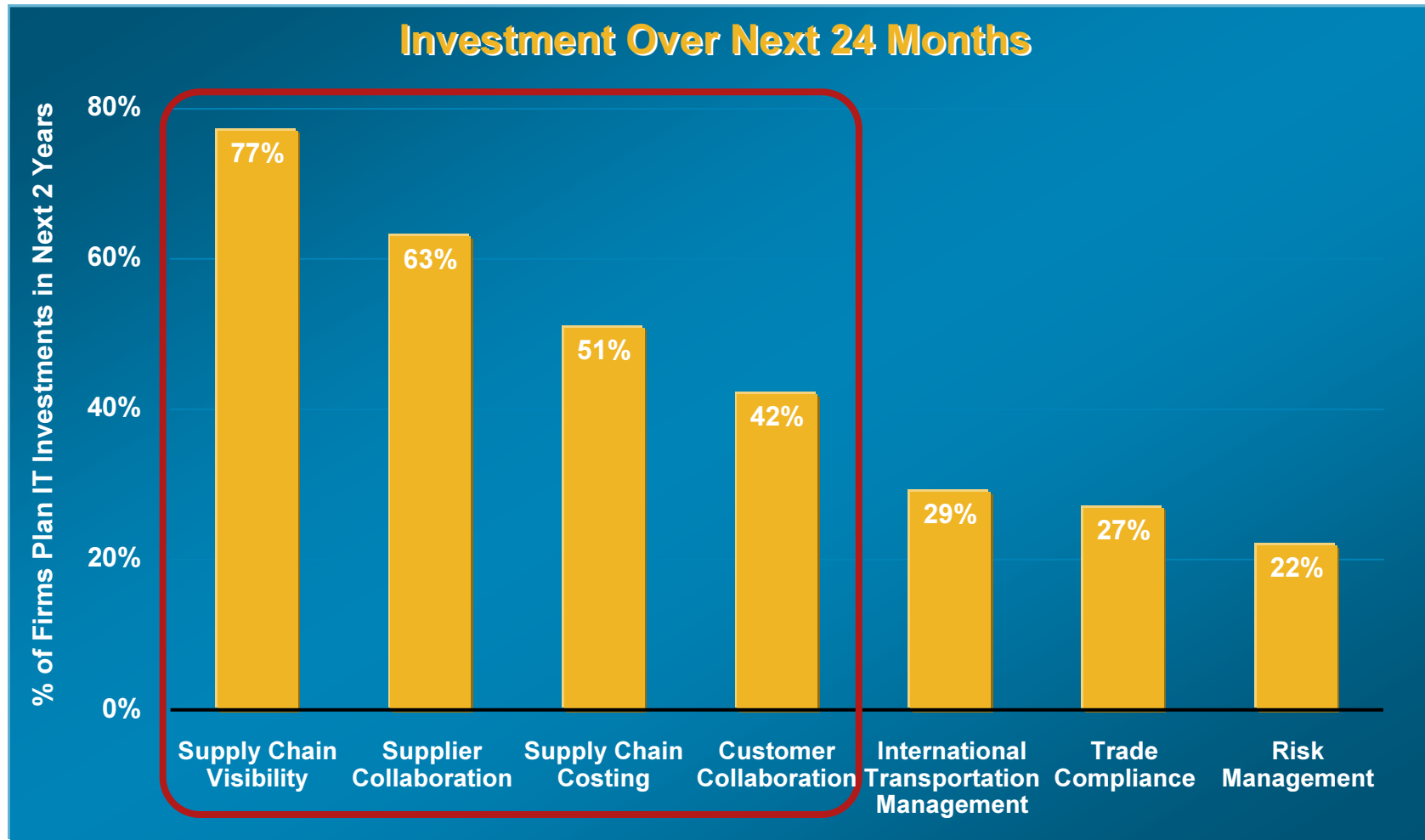
Better Collaboration Essential to Improving Supply Chain



92% of Fortune 500 manufacturers and retailers said that enhancing collaboration would help to address their supply chain issues

Source: Supply Chain Directions Summit 2006 Survey

Companies Investing in Supply Chain Visibility and Collaboration Technologies



Source: Aberdeen Global Supply Chain Benchmark Report, 2006

Business Catalysts Driving Change

Macro

Interactions
Technology age
Rise of personal income
Overburdened Public Sector
Open access

Business

Science of Management
Distributed co-creation
Users as participants in business system
Information based business models
Fast partnering

Competitive Landscape

New pricing
Productization of services
Emerging Markets
New entrants/Niche players with customized services
New Delivery Models

Technology

Next-Gen Internet technologies
SOA
New forms of data
Smart devices
Virtualized infrastructure

Immediate and In-Context Communication & Collaboration

Accelerated Business Innovation

Borderless Enterprise

Business Network Transformation

Business Network Transformation

Cisco enables a Globally Connected Real-Time Business that **Accelerates Business Innovation** through **In-Context Communications and Collaboration** across the **Borderless Enterprise**.

Borderless Enterprise

- Dynamic Interactions between People, Processes and Business Information, and Systems
- Ability to Sense and Respond to Changing Market events in a Global “Flat Earth” World
- Profitably Grow the Business

Connectivity, Information Flow, Integration & Interoperability

In-Context Communications and Collaboration

- Agile, Information-based Business Execution
- Distributed Decision Making
- Improved Outcomes, Productivity and Organization Performance

Users, Interactions, Experiences and Productivity

Innovation

- Transact Business at the Speed of Change
- Organizational Competencies and Assets Address the Changing Needs of the Business
- Manage Risk as an Asset

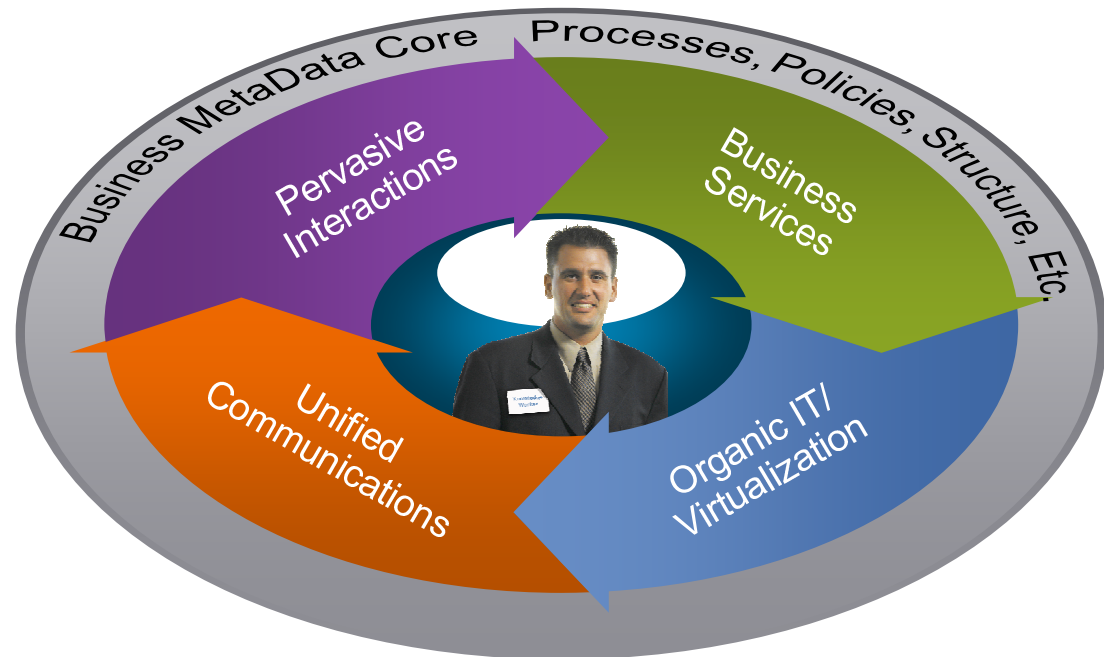
Visibility, Transparency, Awareness and Agility

Business Network Transformation



Business Network Transformation

- **Converged**, streamlined application and IT infrastructure that supports loosely coupled, dynamic business processes
- Orchestrated from users', industry, and usage-based perspectives - a **User-centric Enterprise**
- Enables rich, **in-context fluidity** between business services, pervasive interactions, unified communications and collaboration (UC2), and legacy IT resources
- Evidences the value of **event-based** business processes
- Manifests **Frictionless, Real-Time, Globally Connected B2B**




Initiating the Evolution

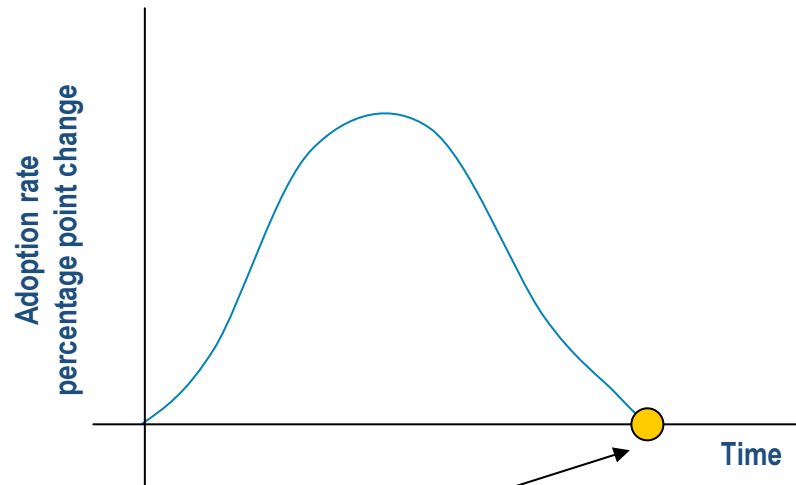
Event-Driven Business Processes

- **Solutions Enabling Business Network Transformation and Agility**
 - Unifying partners, suppliers, employees and customers
 - Across geographically dispersed, highly heterogeneous business and IT landscape
 - Immediate, intelligent interaction based on business events
 - Merging insights, actions, and collaboration
- **Applications that work with the Network**
 - Drive awareness and “in flight” processing to achieve comprehensive visibility across all constituents
 - Without regard for time, location, device, or hierarchies
 - The network is pervasive and persistent to enable intuitive and intelligent responses to specific events
- **Business Solutions powered by a SOA-aware Network**
 - Enterprise Service-Oriented Architecture (eSOA)
 - Cisco’s Service-Oriented Network Architecture
 - Right-time, Intelligent and In-context business responses

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Accelerating product life cycles are putting intense pressure to cut costs and reduce risk



Shrinking market opportunity:

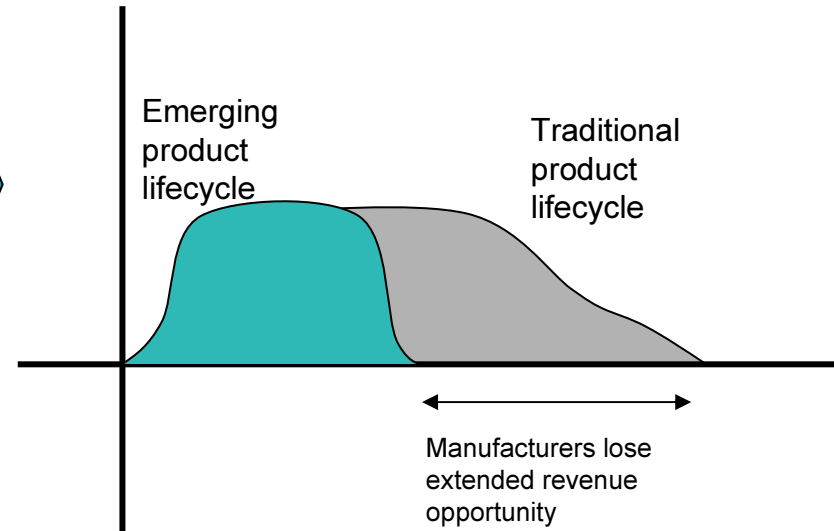
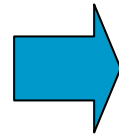
Point at which the adoption rate stagnates or goes negative, when the market is 'saturated.'

For TVs, this point was reached in **36** years.

For VCRs, this point was reached in **27** years.

For CD players, this point was reached in **18** years.

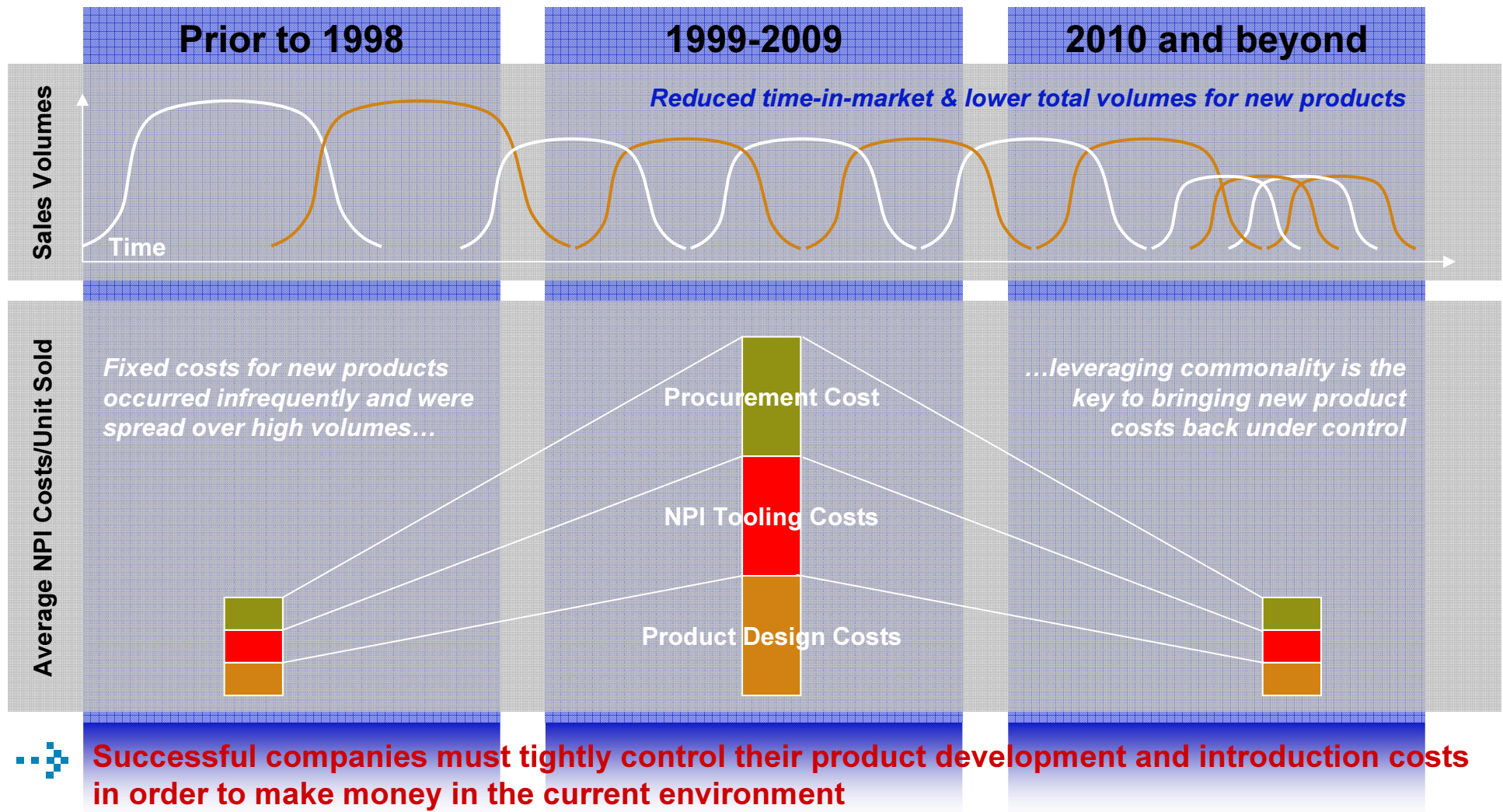
For DVD players, this point might be reached in less than **10** years.



With time-in-market declining, time-to-market is becoming even more important. Any delay on product launch can mean significant revenue opportunity loss

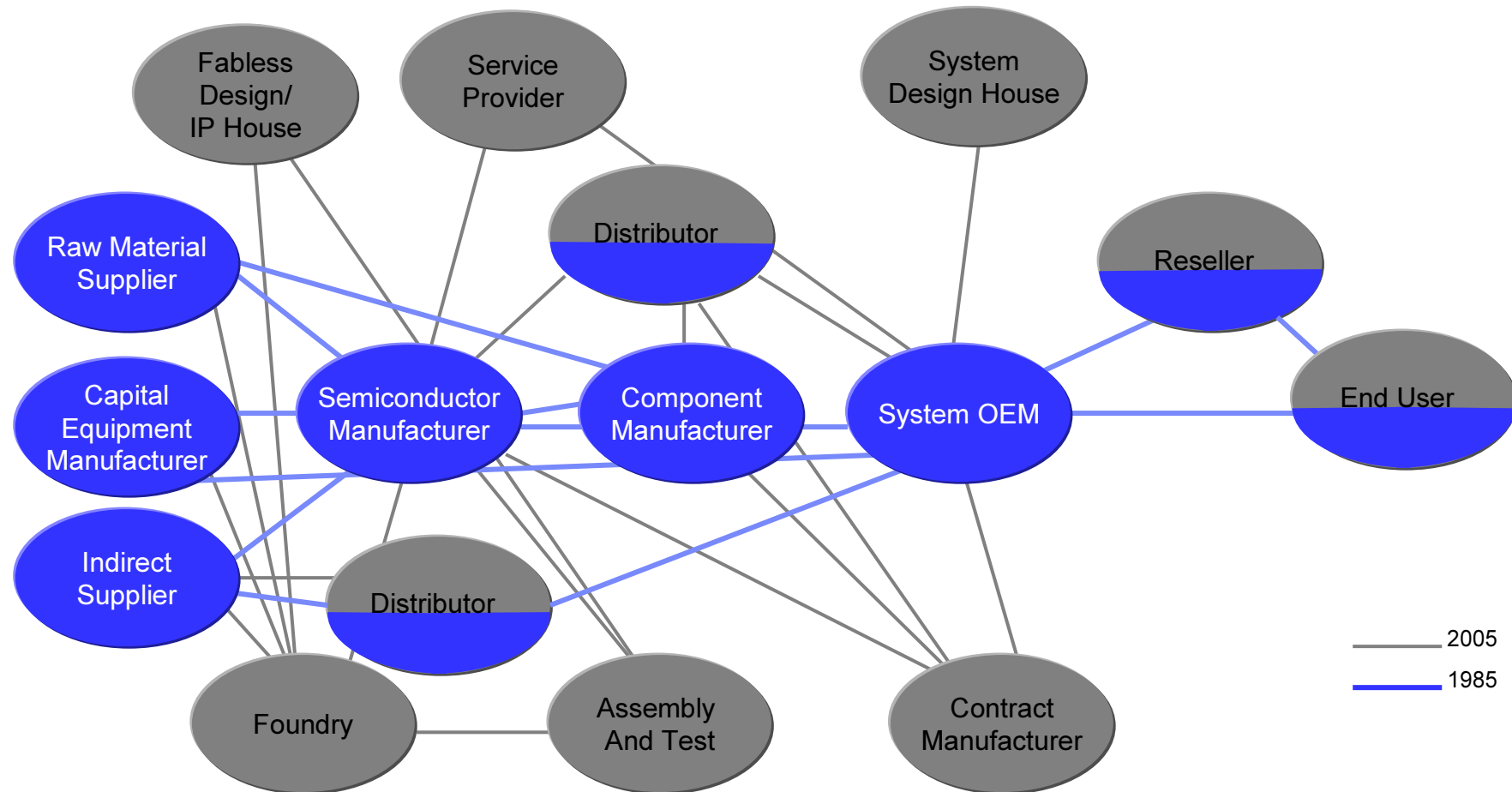
Source: CE.org; "Maximizing Silicon ROI: The Cost of Failure and Success," nasdaq, 20 May 2002;

Shorter life cycles and product proliferation can have a crippling effect on competitiveness



Source: IBM Institute of Business Value (IBV) Research

One response has been increasing specialization across the supply chain

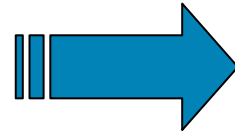


The electronics industry has led the business world in the transformation from vertically integrated enterprises to supply chain networks. Now auto and other high technology manufacturers are following this trend to create their own value chain

Source: ; IBM Institute of Business Value (IBV) and Cisco IBSG research

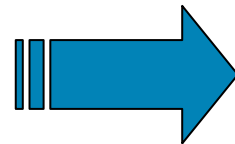
These trends have led to a number of strategic imperatives

- Focus on core competencies



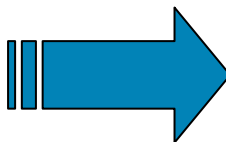
- Outsourcing & managed services

- Increase industry collaboration



- Customer & supplier product design and supply chain collaboration

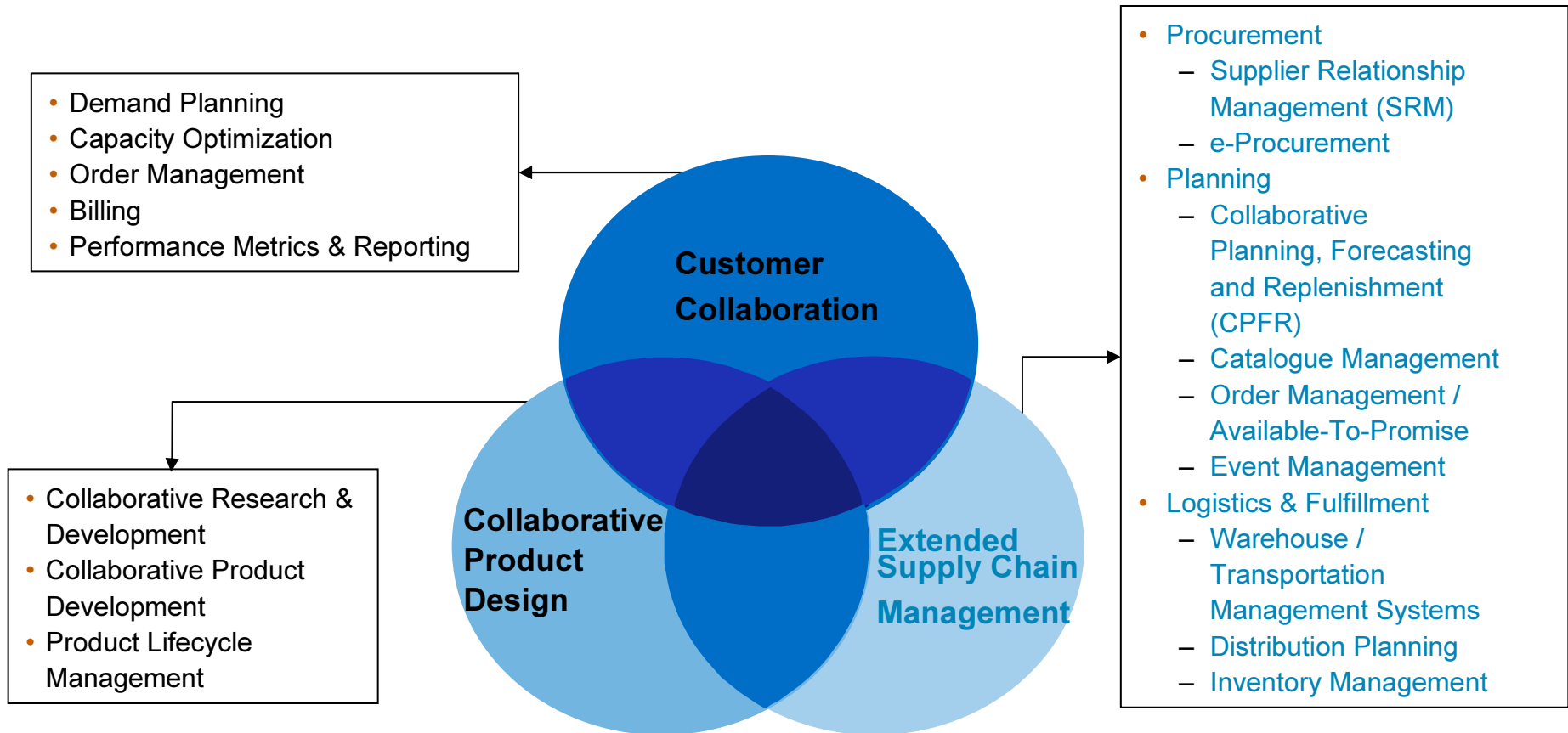
- Drive increased process standardization



- Extended enterprise / industry process standardization

Source: ; IBM Institute of Business Value (IBV) and Cisco IBSG research

Benefits of collaboration



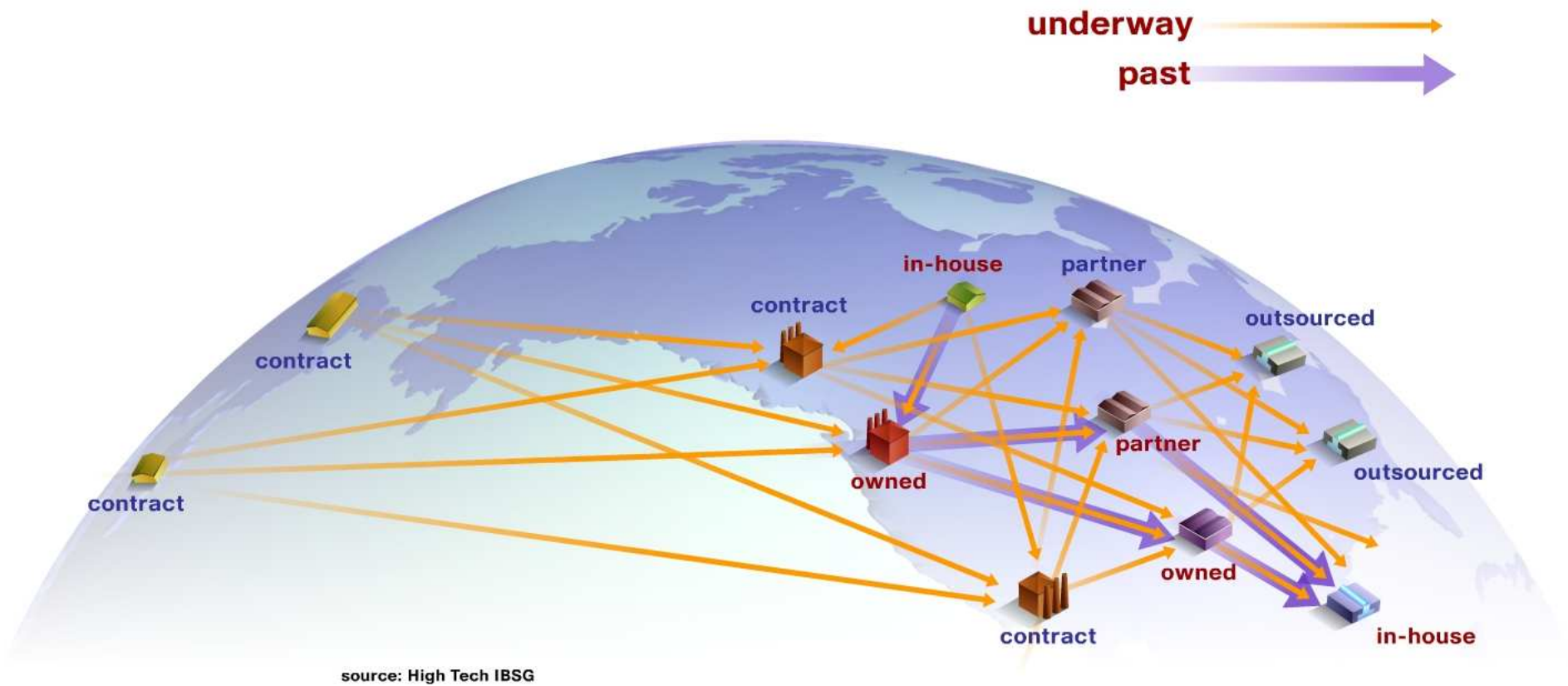
Source: ; IBM Institute of Business Value (IBV) and Cisco IBSG research

Efficient supply chains have not caught up to the pace of supply chain innovation *



***In a recent survey by Gartner of more than 1,300 chief financial officers, companies identified their supply chain as the most important means of improving business performance.**

Virtualization of supply chain has lead to the creation of many mandates



The value of Demand Driven Supply Chain

visibility



flexibility



Broader Network Integration Delivers Greatest Value

Technology
Features

IP Comm Management Wireless Storage Security
Advanced Technologies

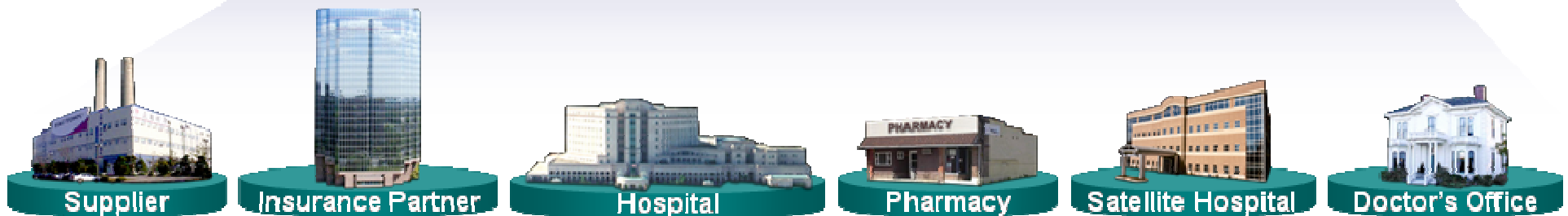
Integration
Benefit

Greater Reliability Better Performance Lower Cost Faster Deployment

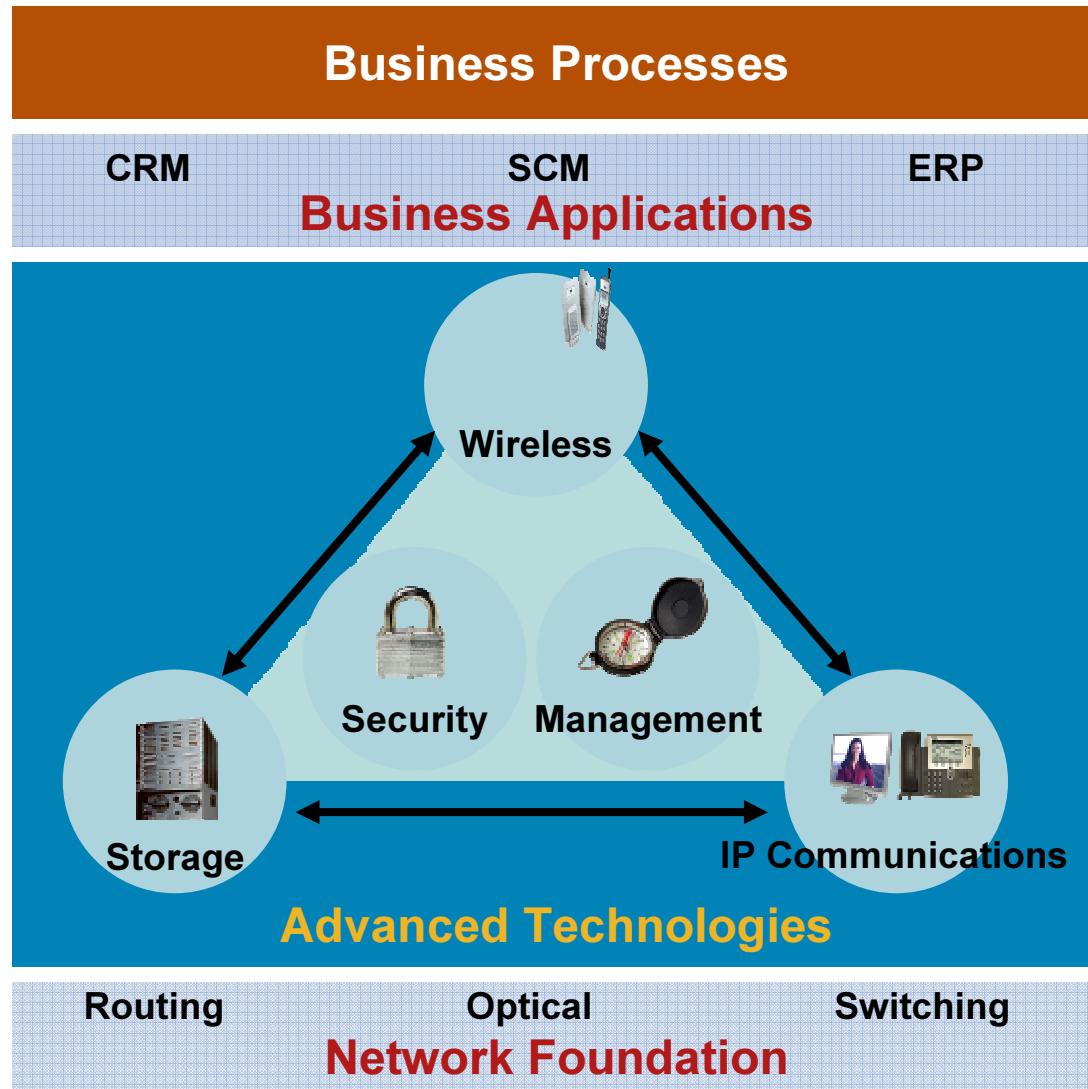
Technology
Features

Routing Optical Switching
Integrated Network Foundation

Across All Business Locations



Integrated Network Maximizes Business Value



Integration Enables:

- Secure collaboration
- Mobility
- Business extension
- Manageability

With:

- Fastest deployment
- Highest availability
- Greatest agility
- Lowest TCO

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About Cisco's Supply Chain*

Team

- ~9,000 employees
- 50+ locations
- 17 countries
- 10 functional groups

Main Locations

San Jose, CA; Atlanta, GA; Austin, TX;
Boxborough, MA; Hong Kong, PRC; Irvine,
CA; Juarez, Mexico; Penang, Malaysia;
RTP, NC

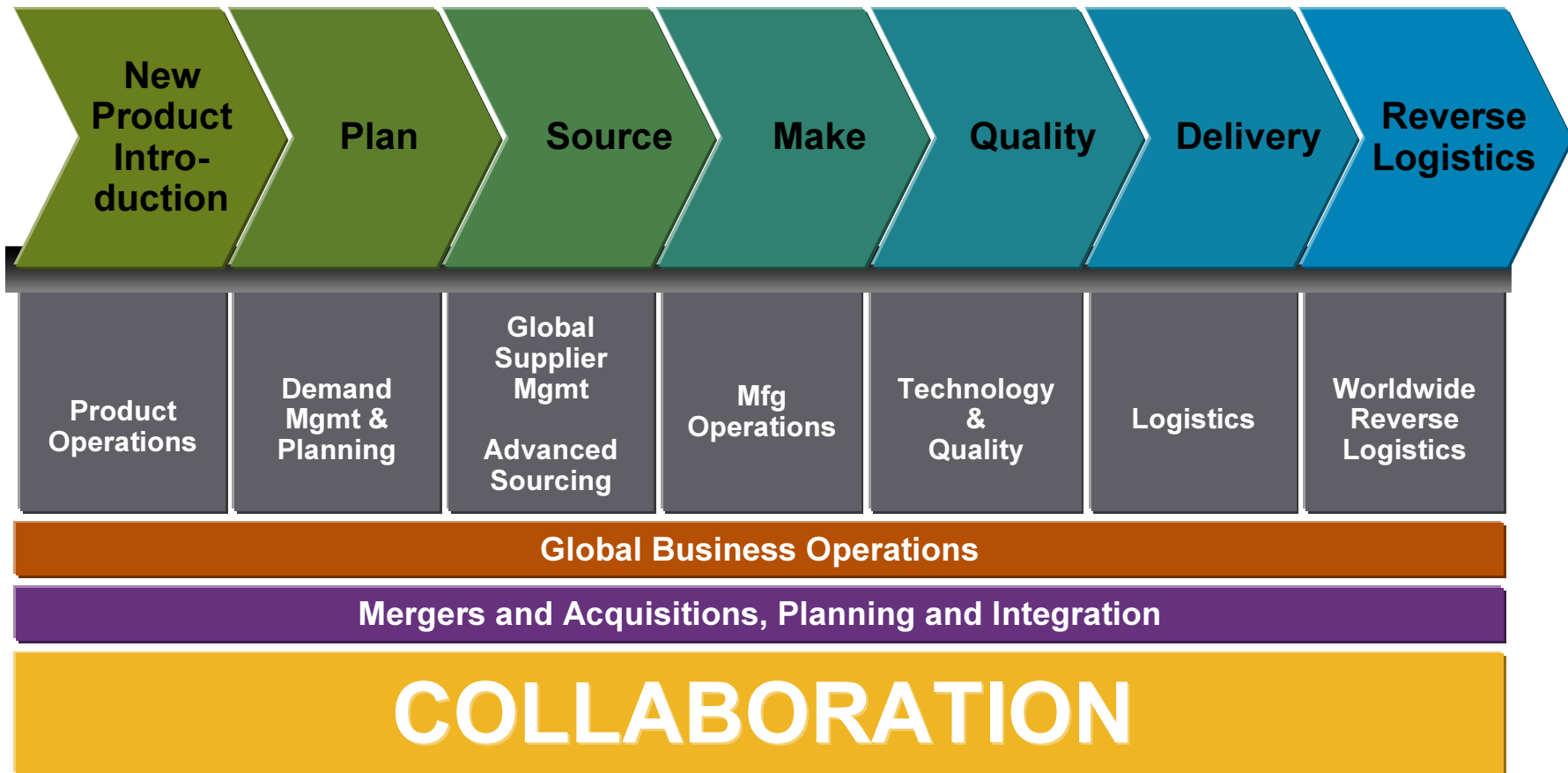
By the Numbers

- >1,000 suppliers
- 95% of manufacturing is outsourced



*includes Scientific Atlanta and Linksys

End-to-End Supply Chain Management



Differentiators of Cisco's Supply Chain



**Outsourced
Production**



**Wide-range
of Products**
(from IP Phones
to GSRs)



**Most
Products Are
Configured
to Order**

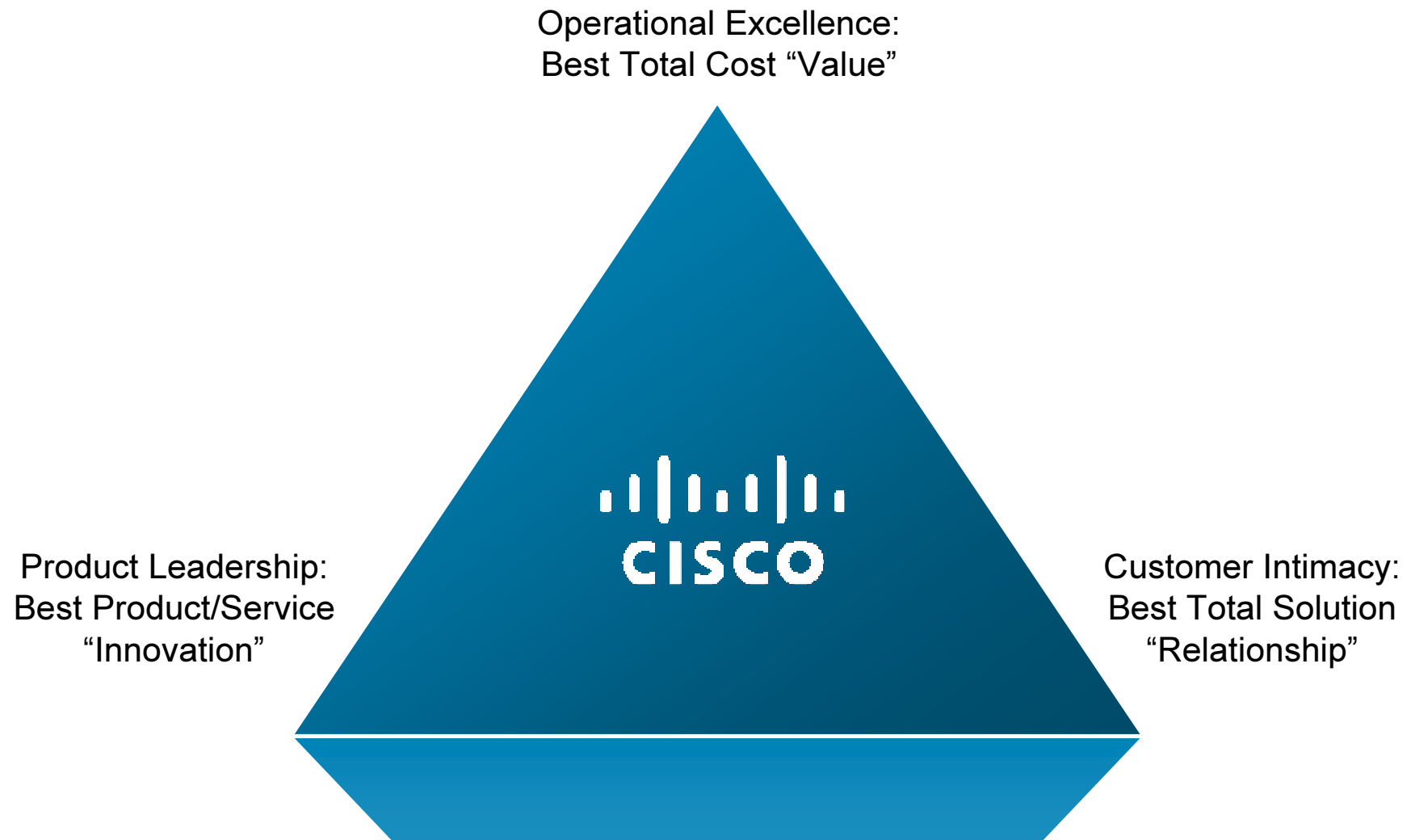


**Breadth of
Customers**
(Consumer to
Enterprise;
Global Markets)



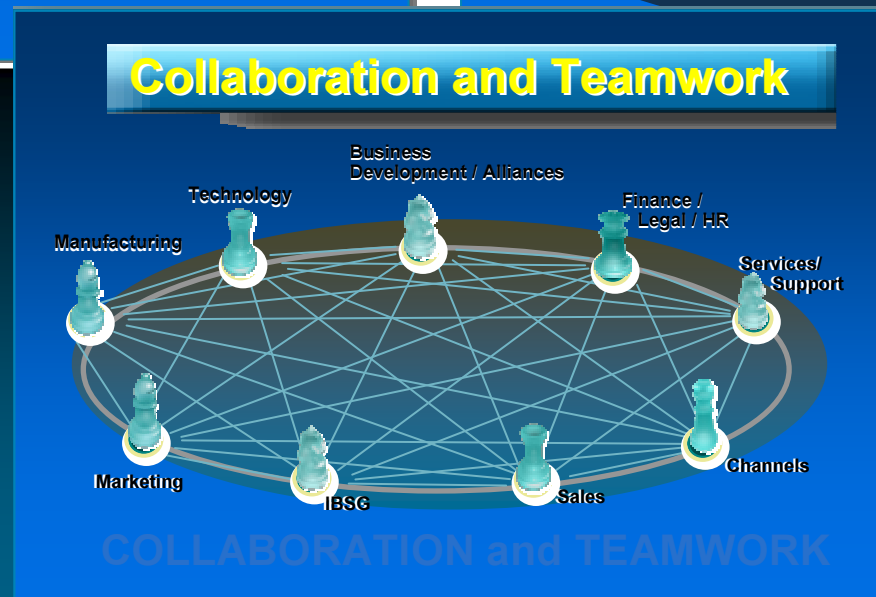
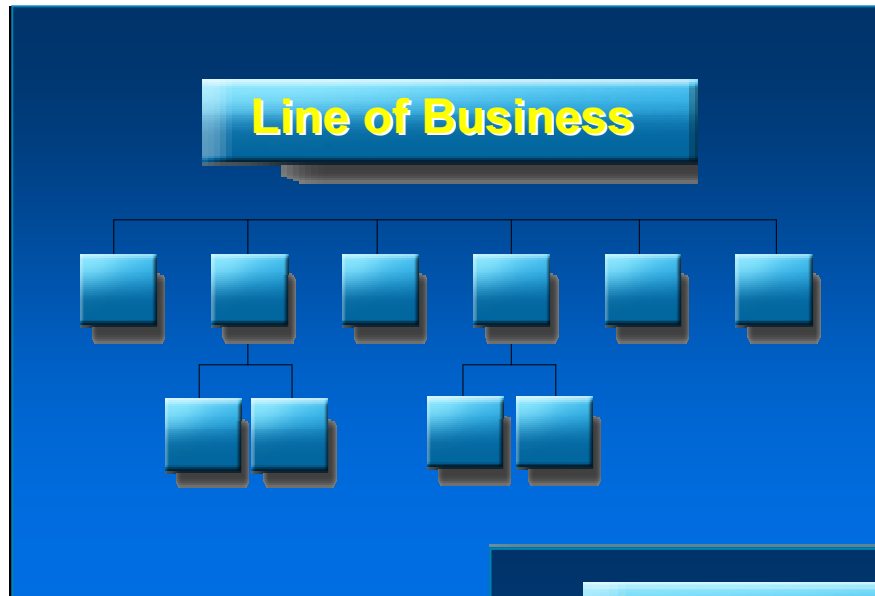
**Acquisition
Integration**
(121 to date)

Customer Centricity Is Key to Our Supply Chain

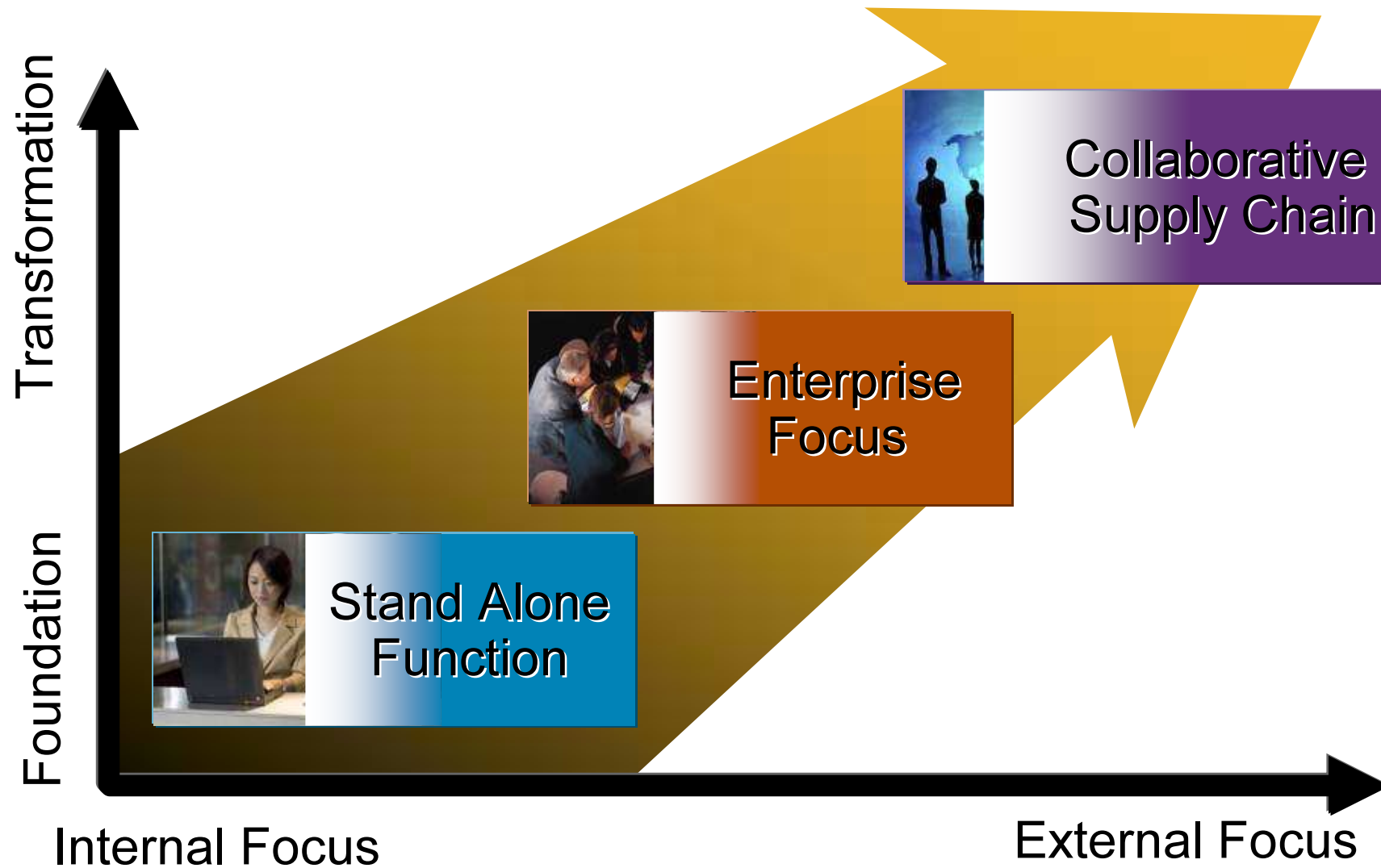


Cisco Business Model Evolution...

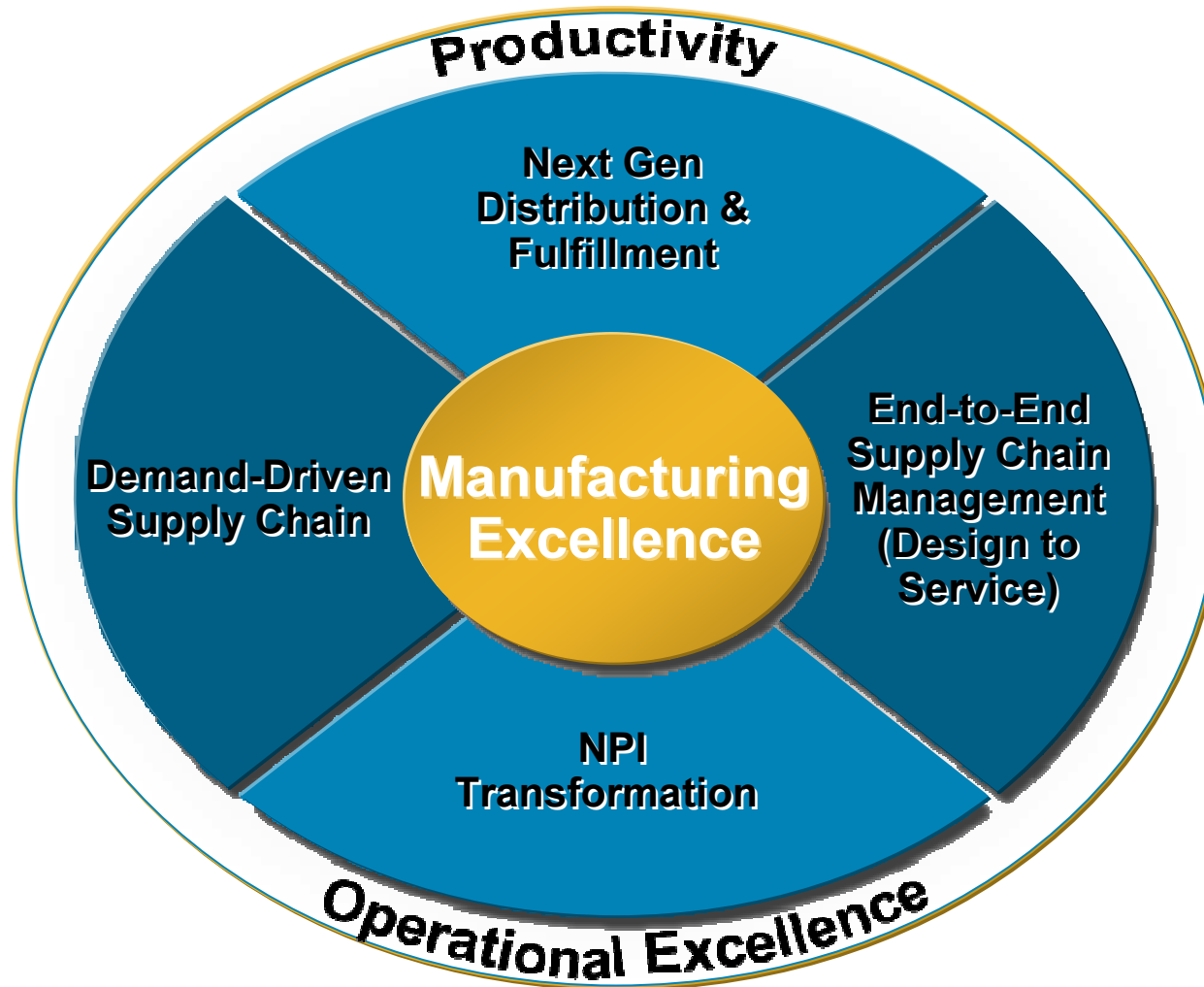
LOB → Command / Control → Collaboration



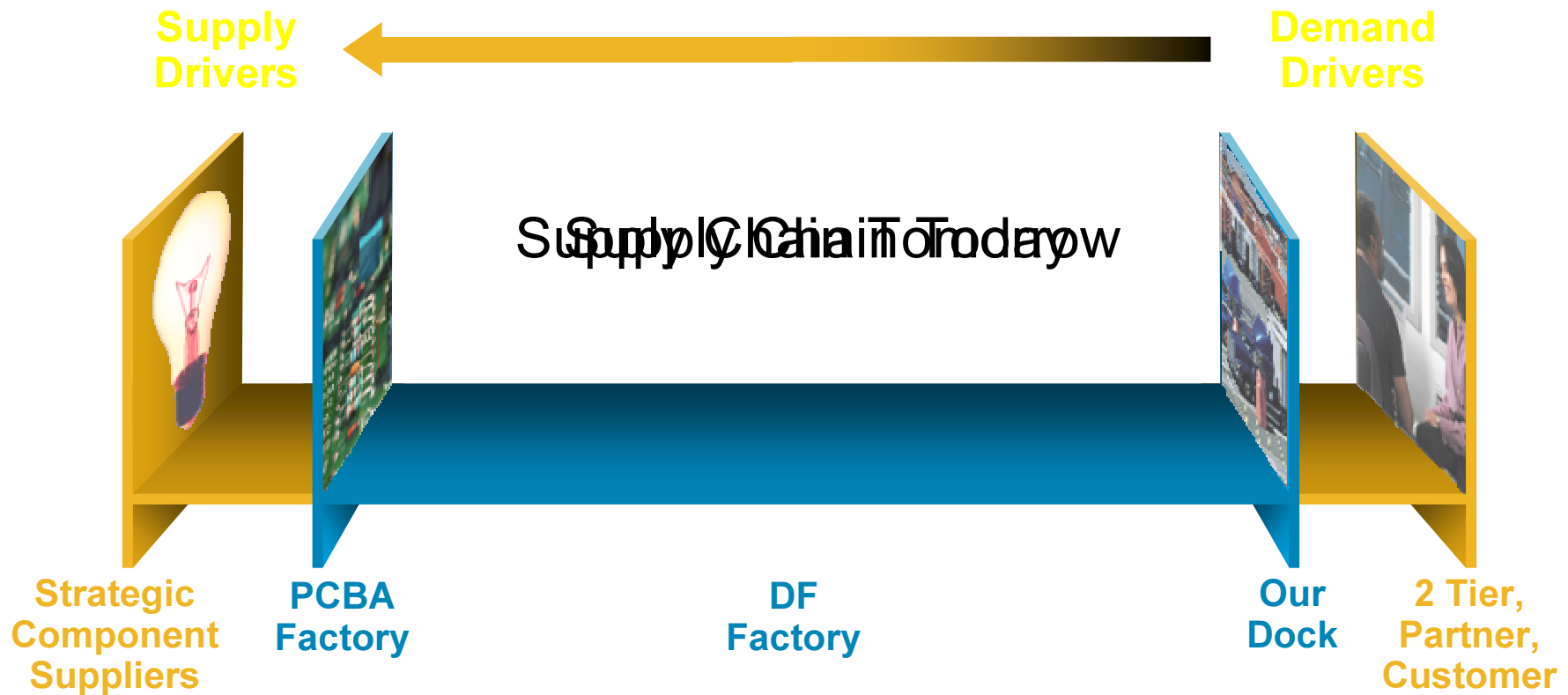
The Evolution of Manufacturing at Cisco



Evolving our End-to-End Supply Chain



Extending the Supply Chain



Lean, Quality, Transformational Execution are Key Enablers

Collaborative Supply Chain Examples

Collaborative Planning



Cisco Lean



Lean Forward



CM/Supplier Telepresence

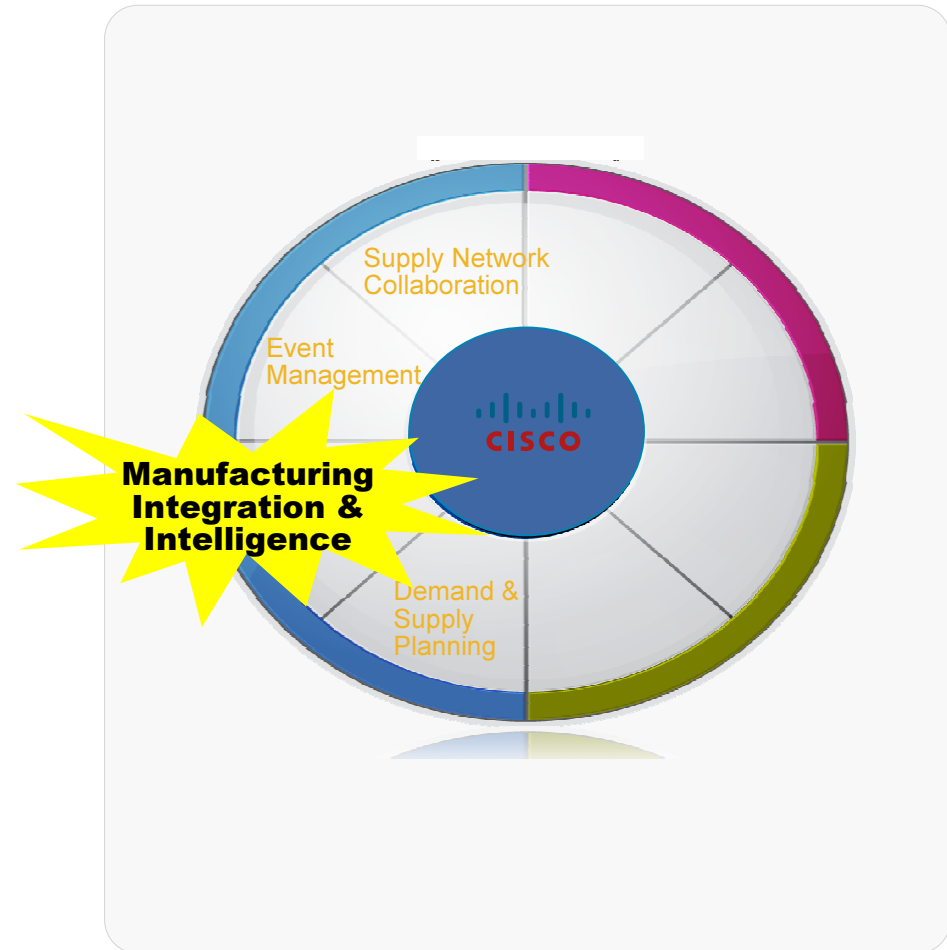


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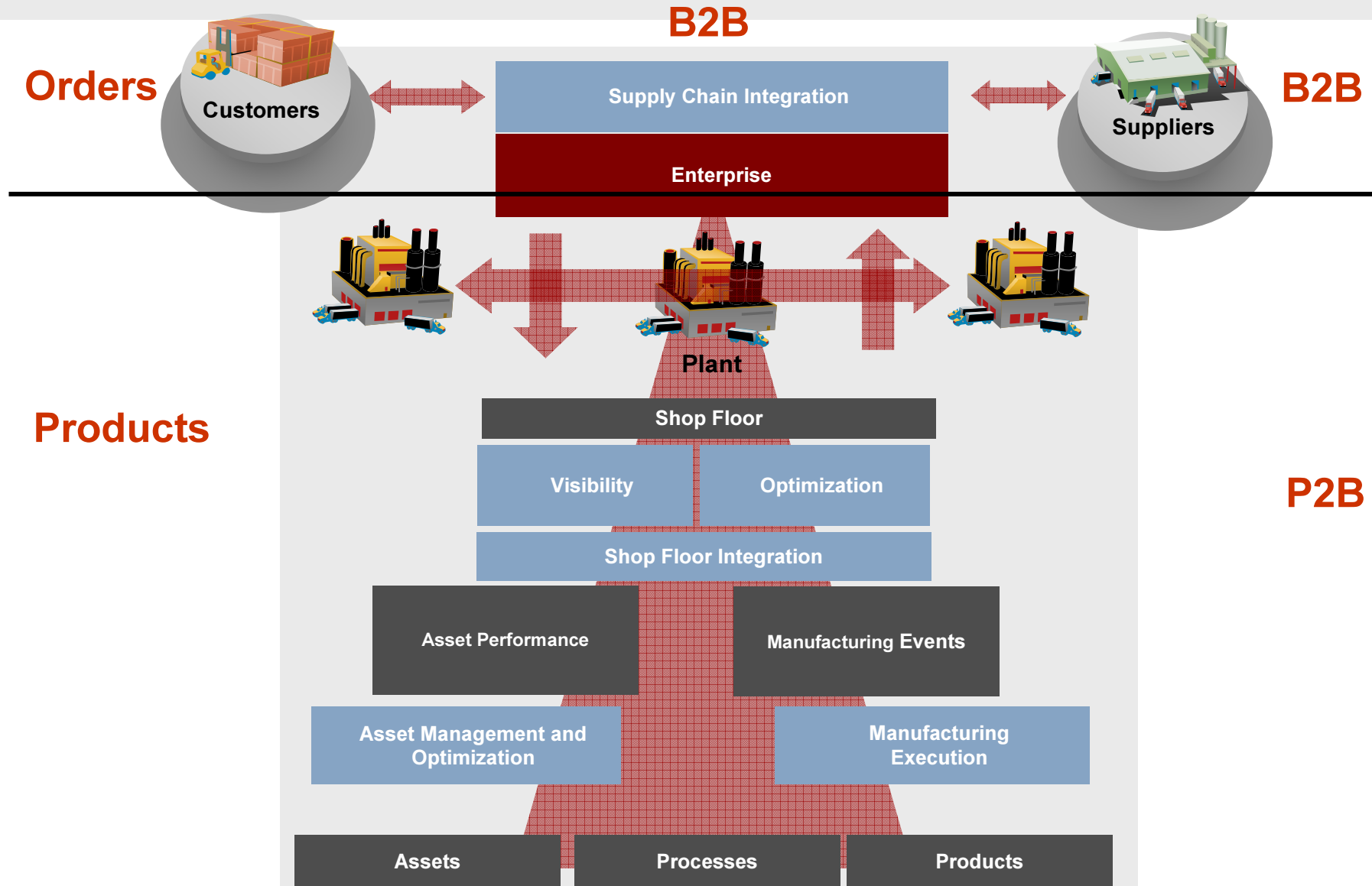
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Cisco Capabilities Within Distributed Manufacturing

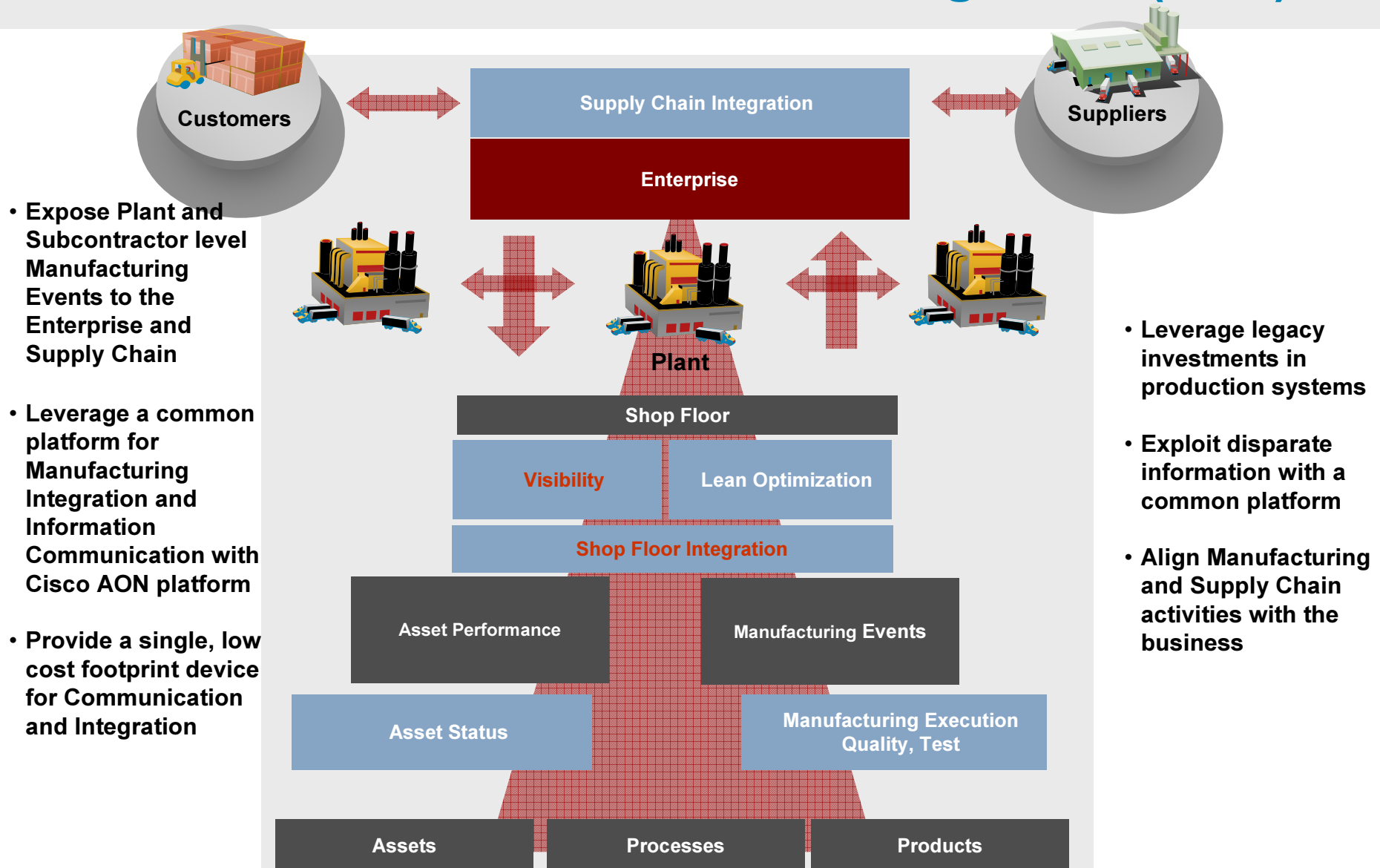
- Adaptive Distributed Manufacturing
 - Manufacturing Integration and Intelligence
 - Cisco SONA
- Focus on Shop Floor Data Across network
- Allow for Quality Measurement and Management



Linking the Plant to the Business (P2B)



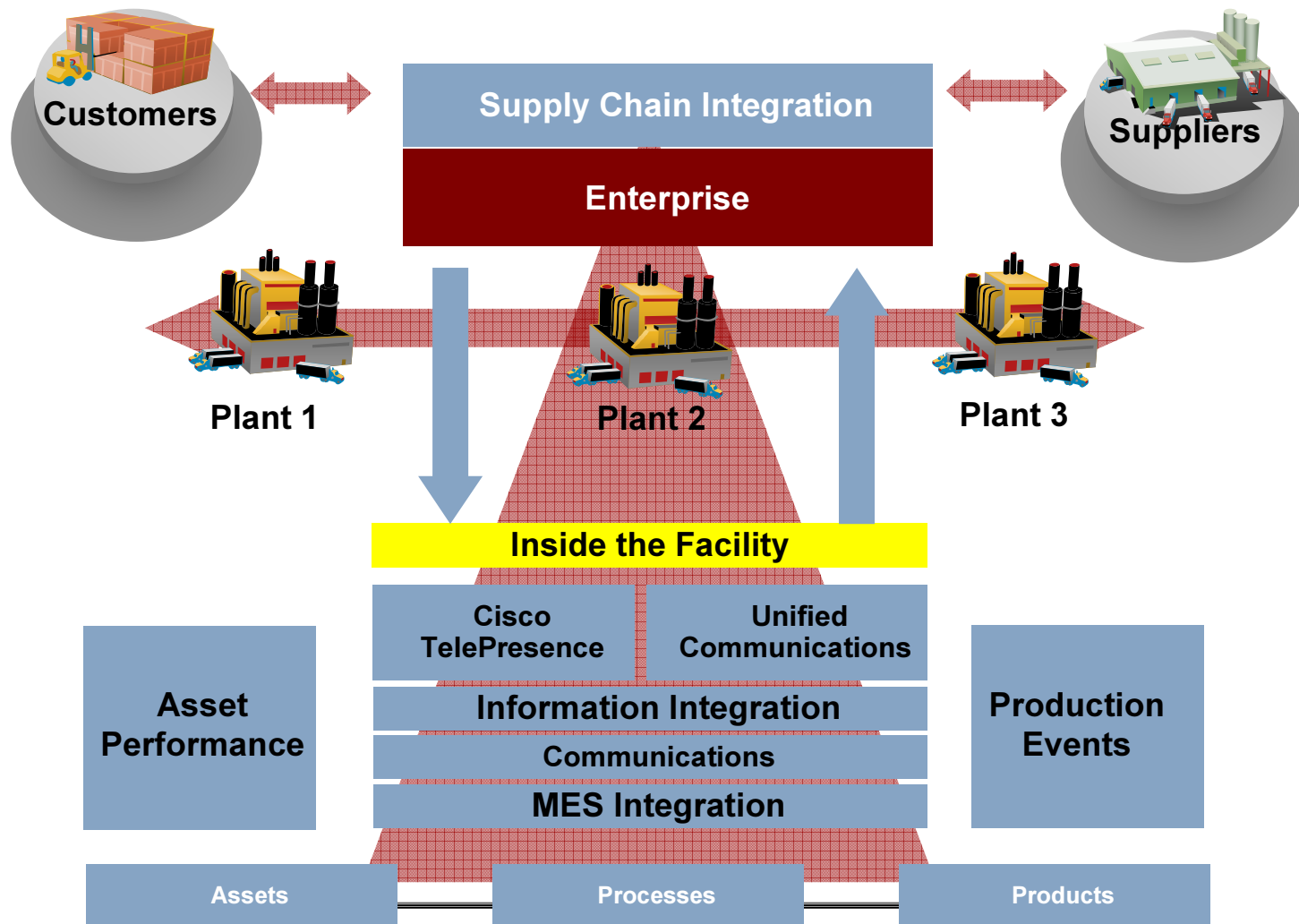
Manufacturing Integration, Intelligence and Collaboration Plant to Business Integration (P2B)



- Expose Plant and Subcontractor level Manufacturing Events to the Enterprise and Supply Chain
- Leverage a common platform for Manufacturing Integration and Information Communication with Cisco AON platform
- Provide a single, low cost footprint device for Communication and Integration

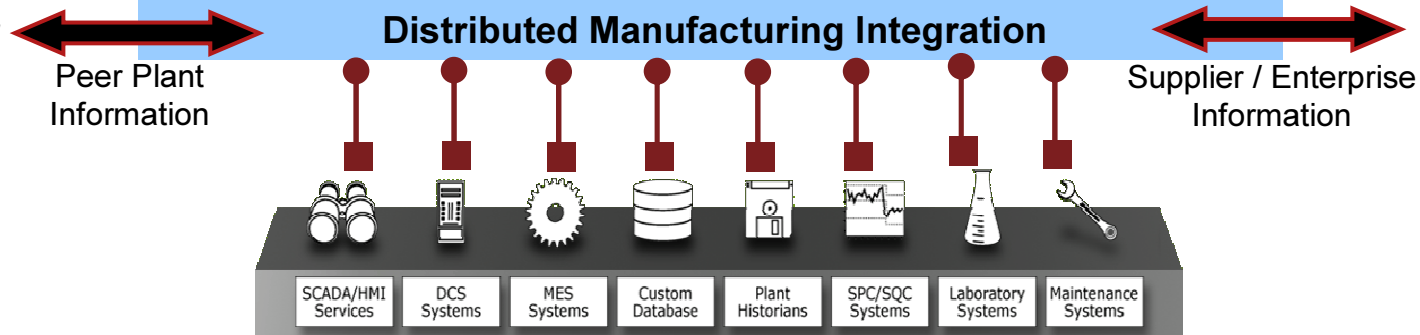
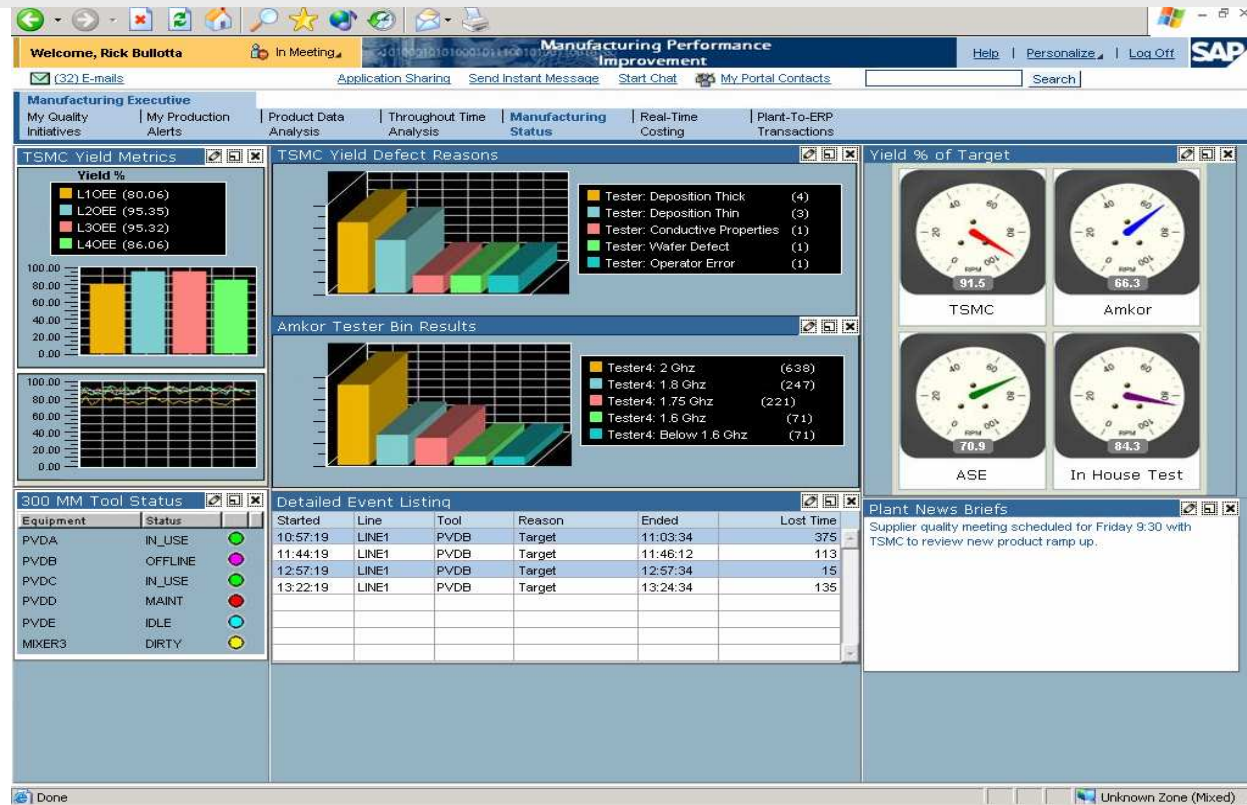
- Leverage legacy investments in production systems
- Exploit disparate information with a common platform
- Align Manufacturing and Supply Chain activities with the business

Adaptive Distributed Manufacturing (ADM)

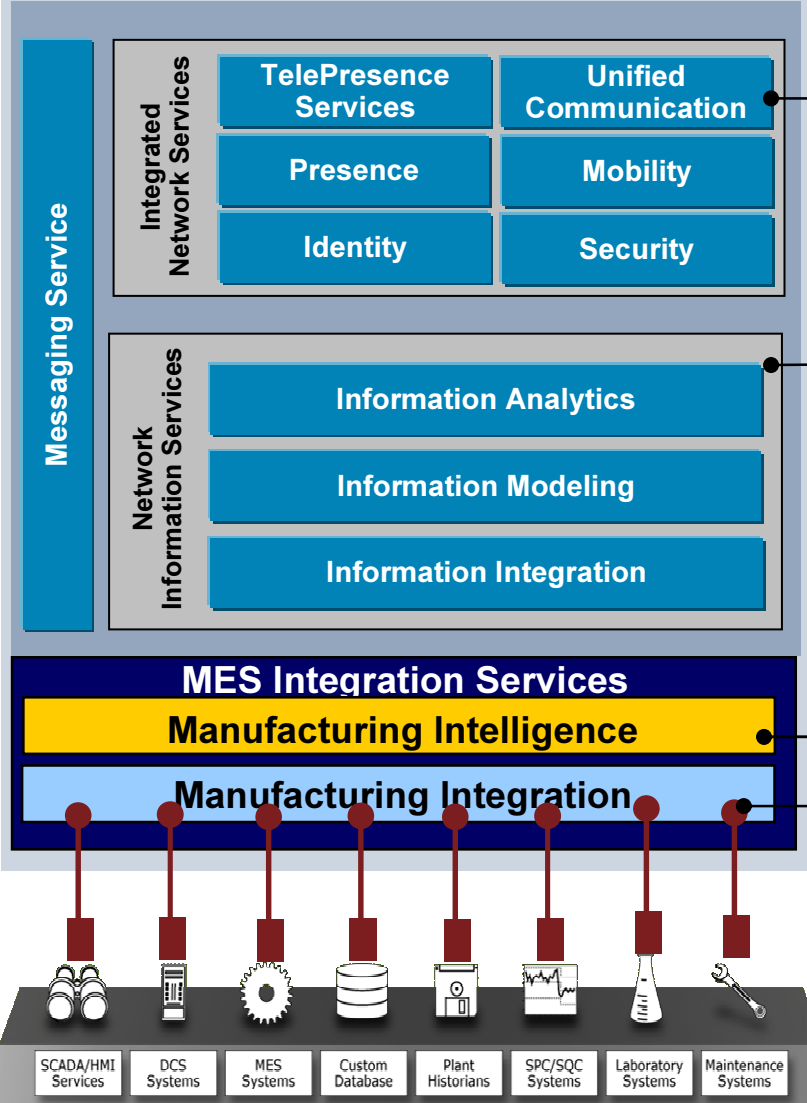


Integrated View Into and Across Manufacturing

- Visibility across all elements of Manufacturing
- Metric and Quality Alerts broadcast based on metrics and trends
- Transactional integration with MES and the enterprise
- SOA enablement of plant level systems



ADM: Enabling Plant to Business Innovation



Collaboration Services: Real-time Unified Communication and Collaboration

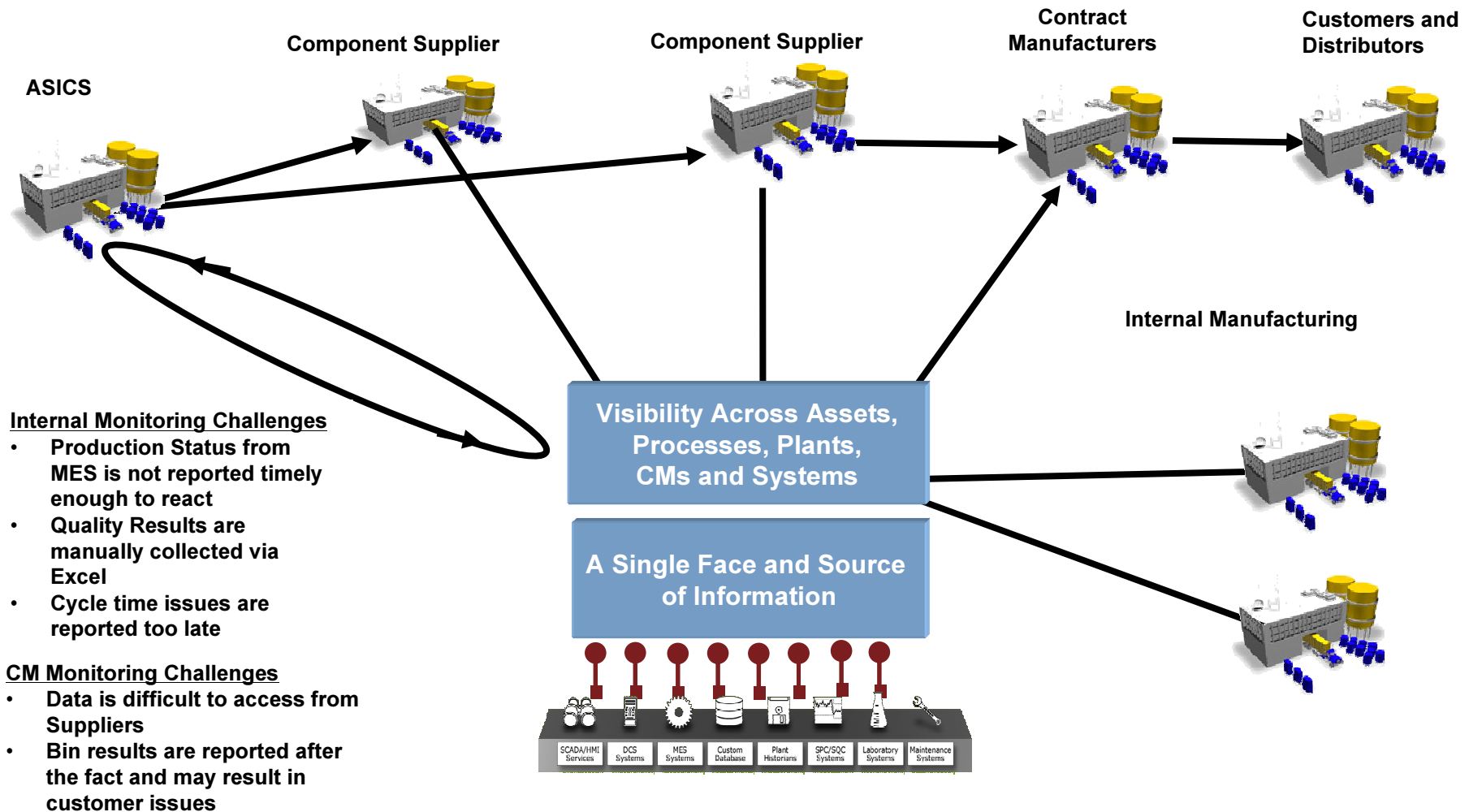
Network Information Services: Real-time Distributed Information Management, Correlation and Secure Real-time Delivery

Distributed Mine/Plant Intelligence: Real-time Analytics Engine Aggregates and Delivers Unified Visualization of Events, Alerts, KPIs and Decision Support to Production Personnel thru Role-based Dashboards without Data Replication

Distributed Mine/Plant Integration: A single layer enabling ERP Connectivity into Real-time Plant Floor Applications (MES, Subcontractors legacy, etc.) to Drive Plant-to-Business business process interoperability

MES – Manufacturing Execution Systems, EMI – Enterprise Manufacturing Intelligence, SFAC – Shop Floor Automation & Control,

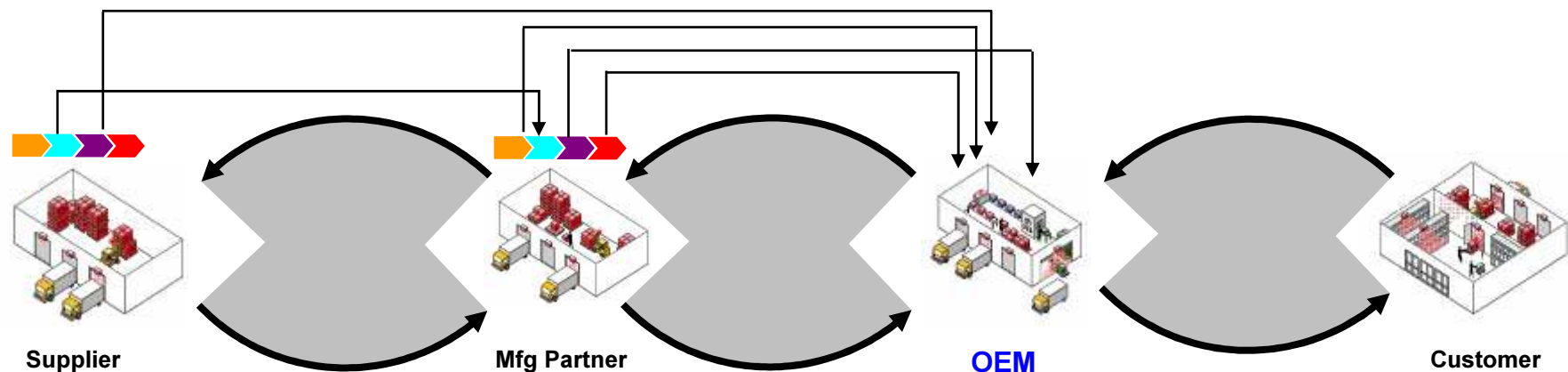
Addressing Manufacturing Information and Integration Challenges



**Visibility into Subcontractors and Component Suppliers Manufacturing
Cohesive View of Entire Supply Chain**

Adaptive Supply Chain

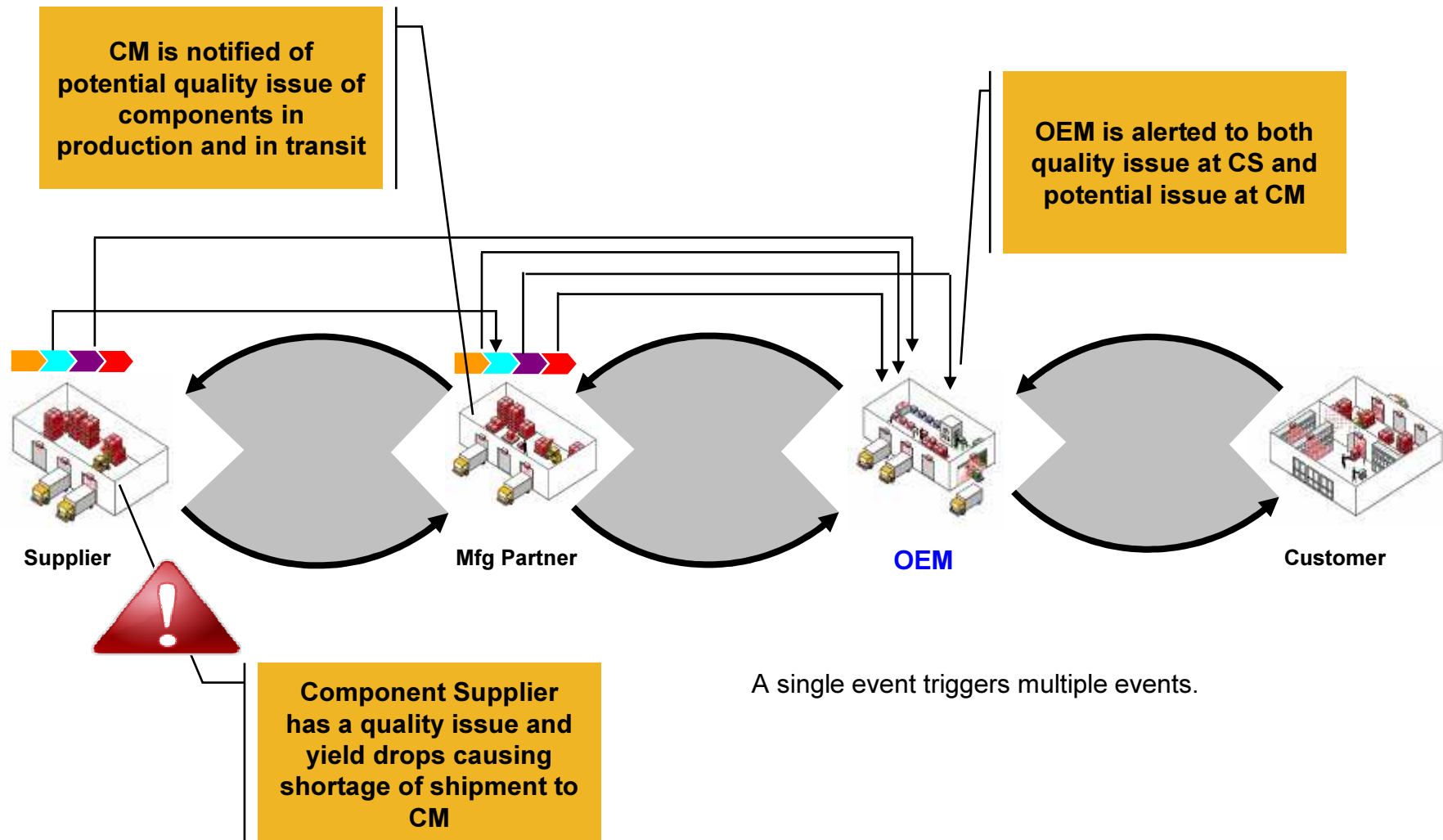
- A new level of visibility that transforms supply chain management solutions
- Provides real-time or near real-time data visibility on internal steps in the business process, not just inter-enterprise data exchange at the end-points



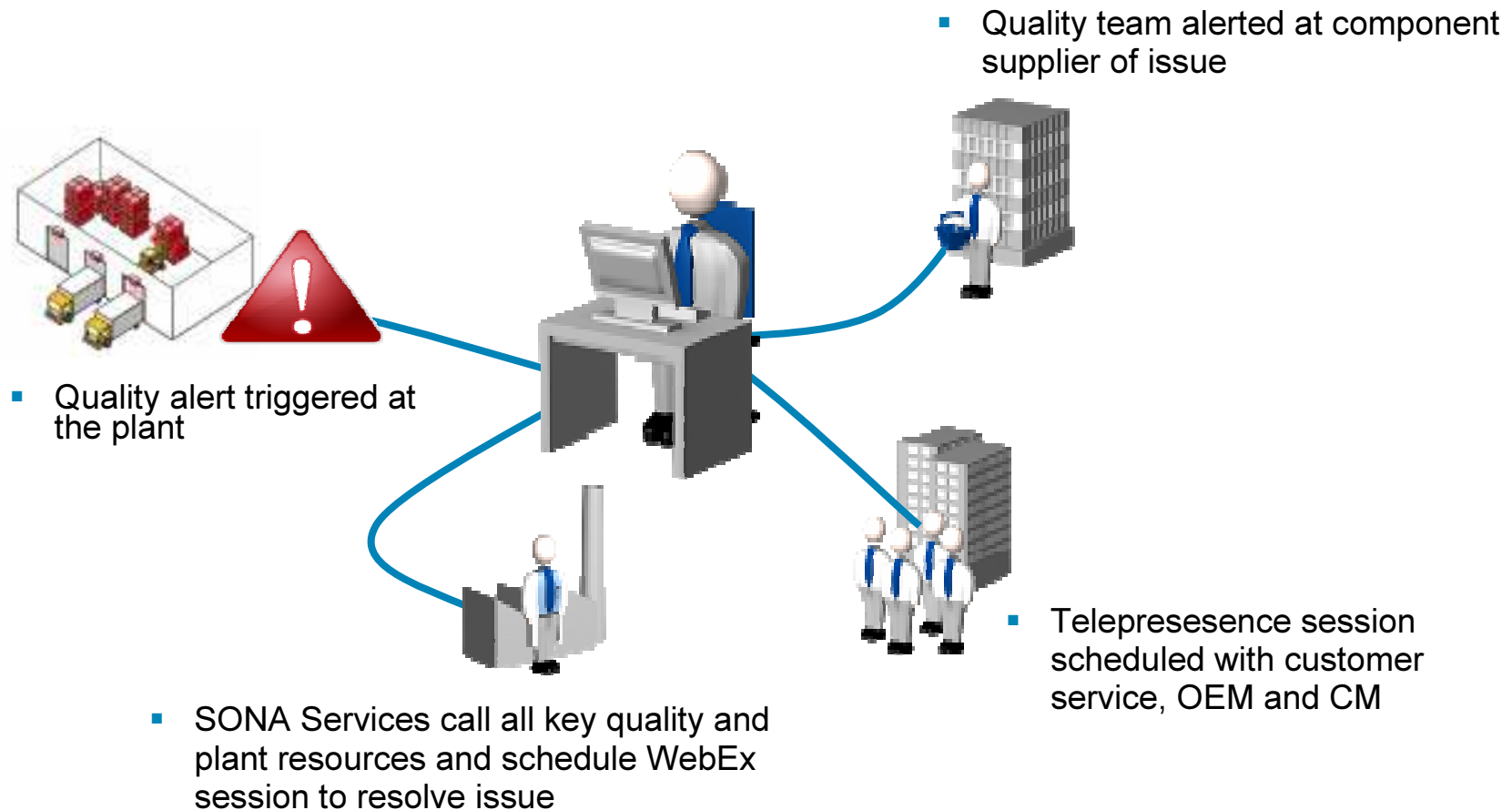
The OEM obtains real-time updates from key points on the factory floor while also monitoring exchanges between organizations – it is both internal process data and inter-enterprise data

Multi-Tier Visibility provides an organization a view of data exchanged between more than just the adjacent partners but a partner's partner. MTV is typically only employed with key suppliers.

Adaptive Supply Chain



At the Component Supplier



Adaptive Supply Chain

Deploy, Decide and Act Faster

Improve visibility to plant events, react to changes, and reconfigure processes across functional teams faster, with common metrics updated in real-time



Improve Communication and Collaboration

Allow cross-functional company, supplier, partner communication across multiple media such as voice and video to better collaborate in response to events and market changes



Drive Consistent Asset and Product Performance

With better communication to enable faster decision making throughout global mining and plant operations and collaborative teams; improve employee productivity



Built on a Lower TCO and Comprehensive Infrastructure

Deliver an IT architecture to ensure an optimal secure and scalable IT infrastructure to enable the next wave of innovation



The Opportunity for Cisco's Customers



- **The next generation of the Supply Chain is about collaboration**
- **Companies that successfully collaborate are emerging as the winners in today's economy**
 - Within their function
 - Across the enterprise
 - With customers
 - With partners and suppliers
- **The network is the platform for collaboration**

COLLABORATION

