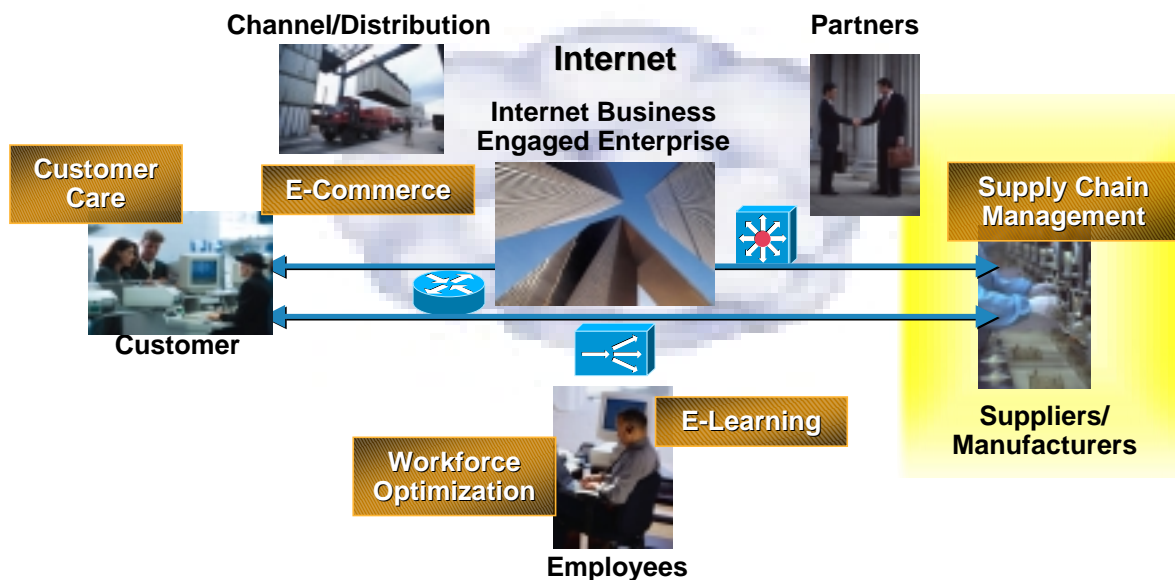




# Agenda

- **Supply-Chain Management— Opportunities and Challenges**
- **Technology Choices and Solutions**
- **Cisco Case Study**
- **Emerging Industry Exchanges**
- **Next Steps**

# The Internet-Enabled Enterprise



# Why Supply Chain Management?

## Increasing customer demands

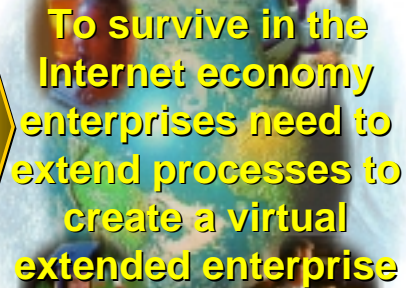
- Measured on responsiveness
- Expectation of high, consistent quality
- Mass customization

## Globalization of competition

- Broadening of global markets
- Emergence of new competitors
- Scale for growth

## Rising development costs

- Compressed product lifecycle
- Need dramatic cost reduction
- Need to return to core competency
- Rapid development cycle



To survive in the Internet economy enterprises need to extend processes to create a virtual extended enterprise

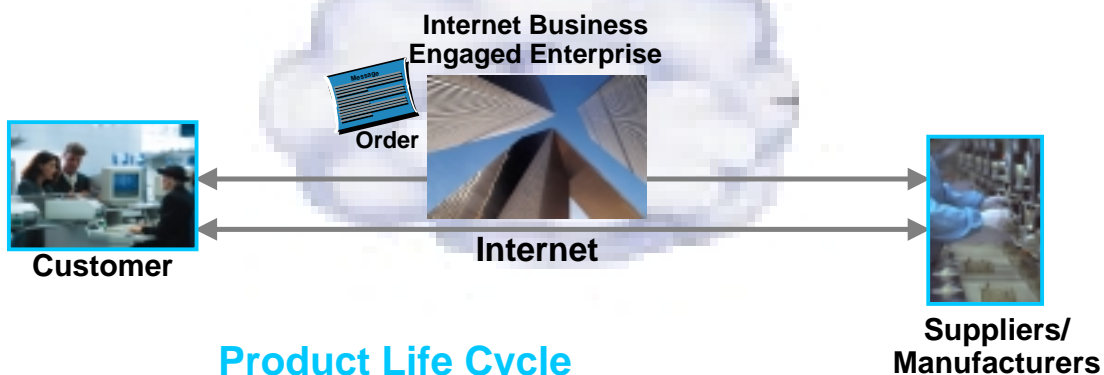
# The Extended Enterprise

## Product Service

Depot Inventory, Versions, Demand

## Order Fulfillment

Order Commit, Demand, Planning, Build, Ship, Pay



## Product Life Cycle

Design, Release, Change, Retire

# Supply-Chain Management Growth



We estimate that supply-chain planning vendor revenue will **top \$3.6 billion**, triple today's current revenue, by 2002.....  
By 2004, **90%** of enterprises that fail to apply SCM technology and processes will lose preferred supplier status.



Gartner, ITxpo '99



Enterprises plan to **increase** their extranets by **41%** over the next two years.



Forrester Research Inc '99

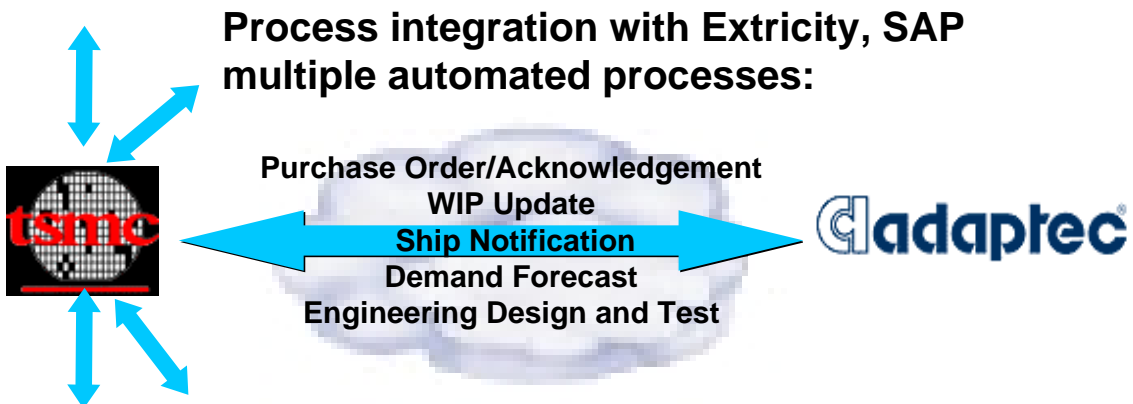
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## SCM Example: TSMC and Adaptec



- **Results:**

- Increased customer loyalty
- Reduced product lead times
- 14 Times ROI over three-year period

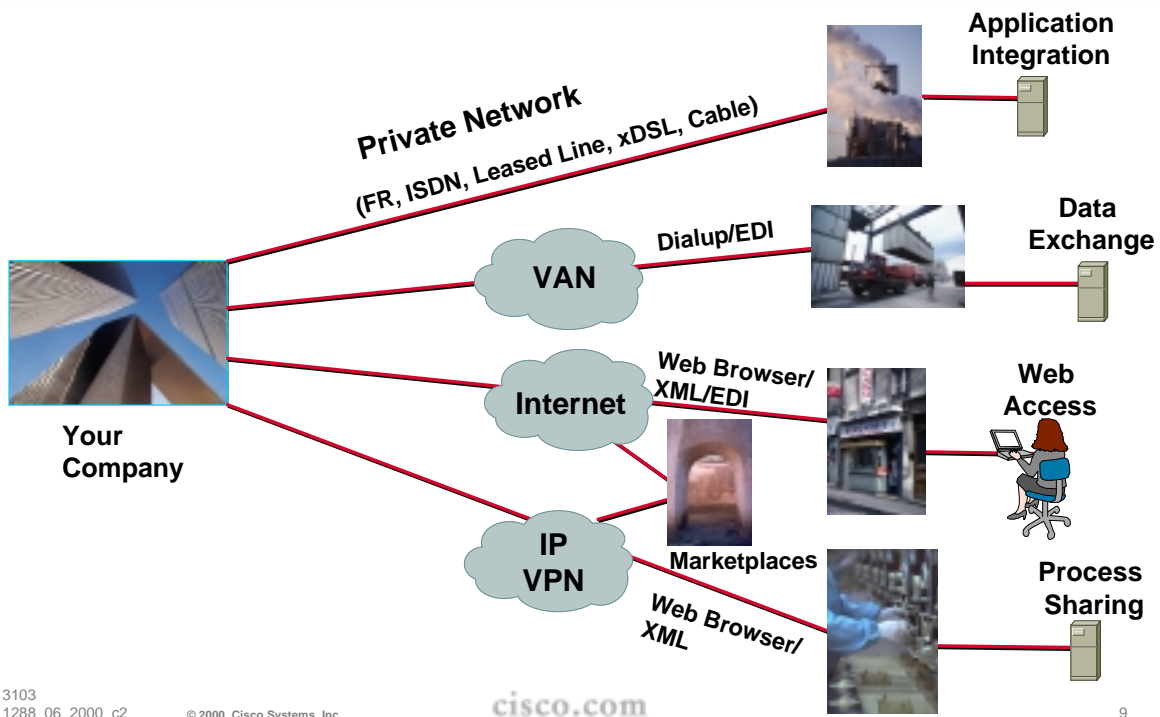
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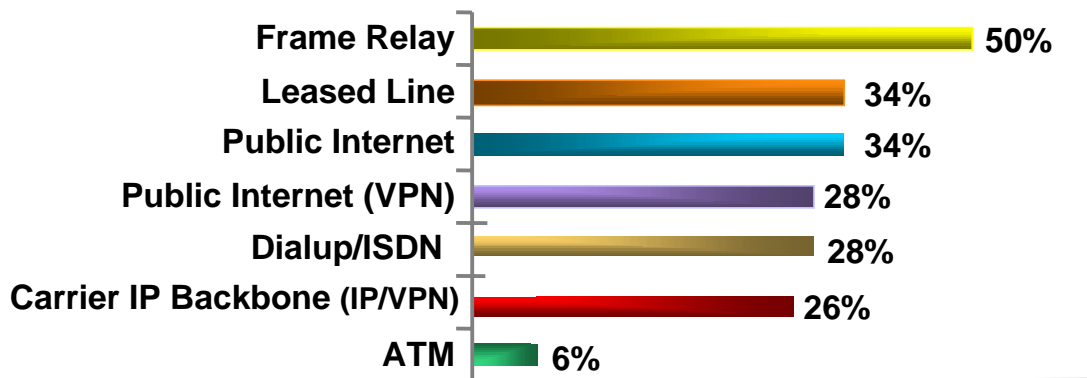
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# Modes of Networking and Collaboration



# How Do You Connect With Your Extranet Partners Today?



Survey of 50 Global 2500 Companies

Source: Forrester Research Inc—Nov '99

# Business Requirements Drive Connectivity Solution

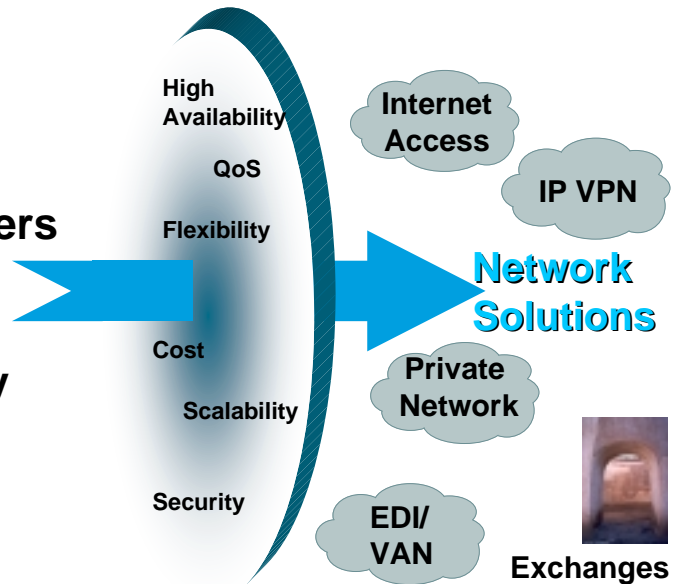
**Business process  
Integration**

**No. of business partners**

**Mission criticality**

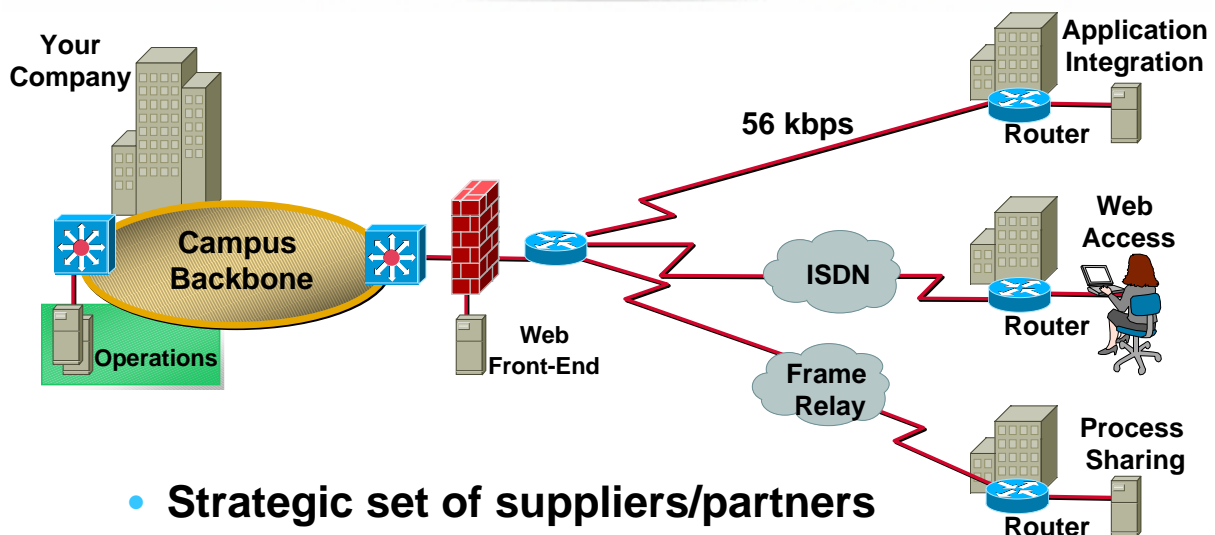
**Relationship flexibility**

**Cost sensitivity**



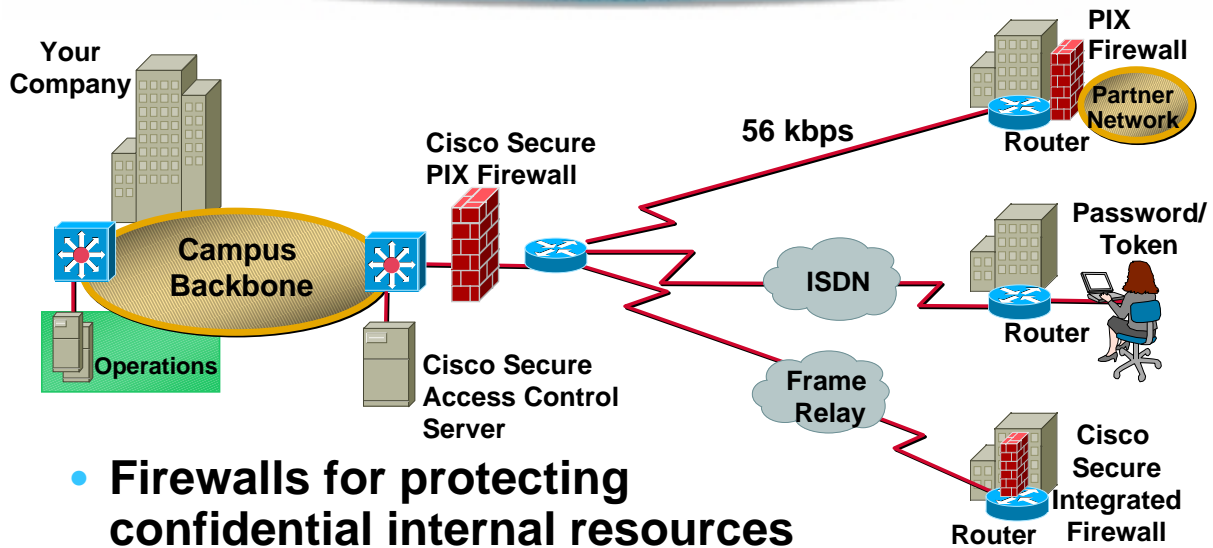
**Typically Companies Choose More Than One Solution**

# Private Network



- **Strategic set of suppliers/partners**
- **Limited scalability due to cost**
- **High level of control (security, performance)**

# Private Network: Security



- Firewalls for protecting confidential internal resources
- Authentication, authorization for preventing unauthorized user access

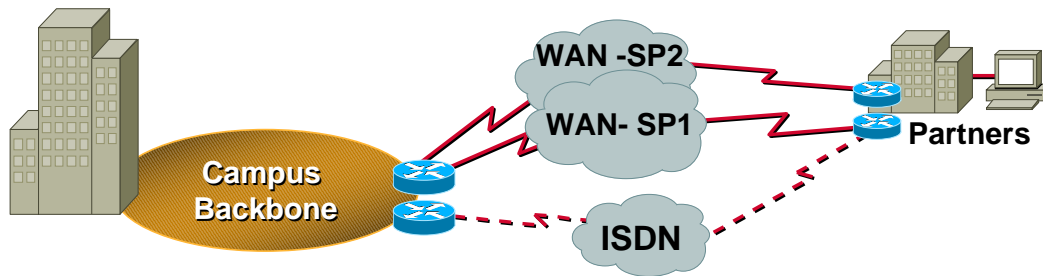
# Cost of Supply-Chain Downtime



Survey of 250 Fortune 1000 Companies

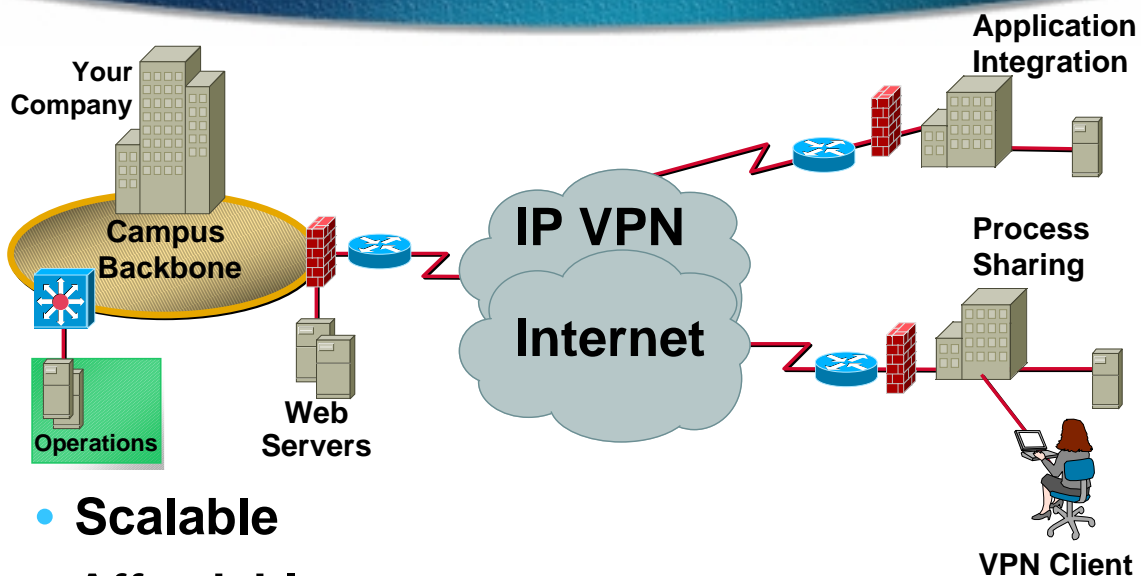
Source: The Standish Group

# Private Network: High Availability



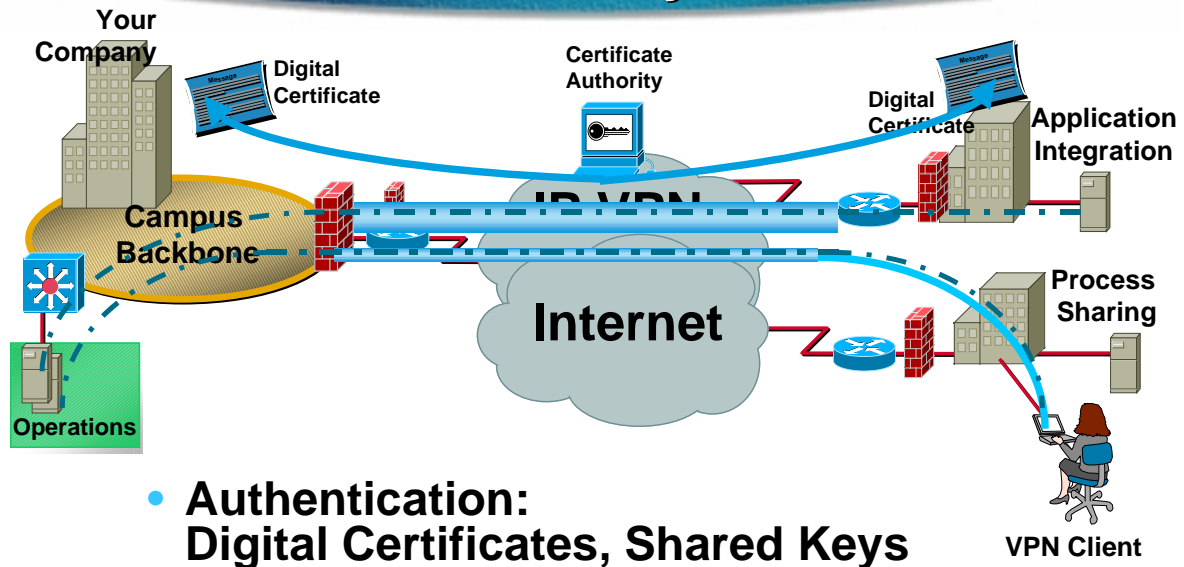
- Fast convergence around failures
- Network device redundancy and resiliency
- Dual homing to service providers
- SLA monitoring

# Virtual Private Networks



- Scalable
- Affordable
- IP VPN service can provide improved SLA

# Virtual Private Networks: Security



- **Authentication:**  
Digital Certificates, Shared Keys
- **Privacy:**  
Virtual Private Networks, IPsec

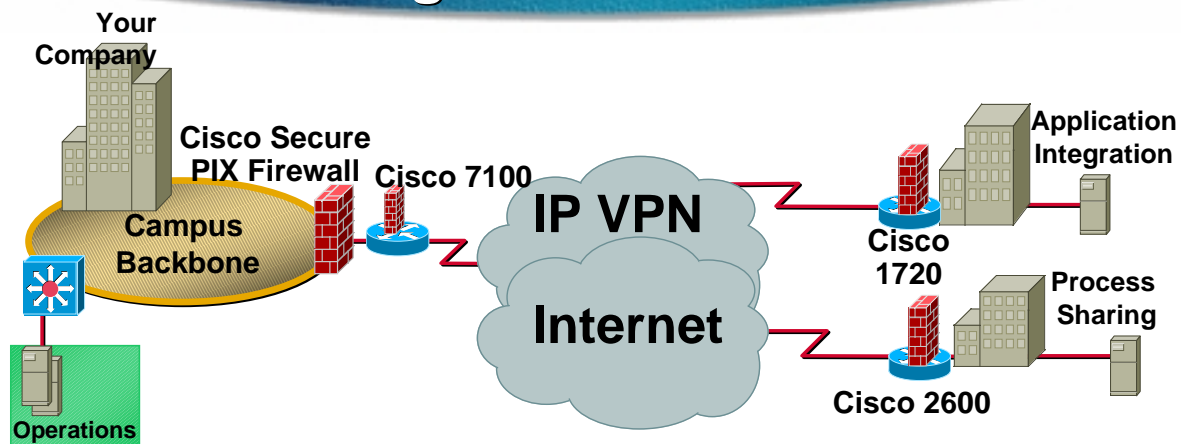
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# Virtual Private Networks: Integrated Solution



- **Integrated routing, VPN, firewall, QoS and IPsec support**
- **Cisco IOS software Release 12.0**

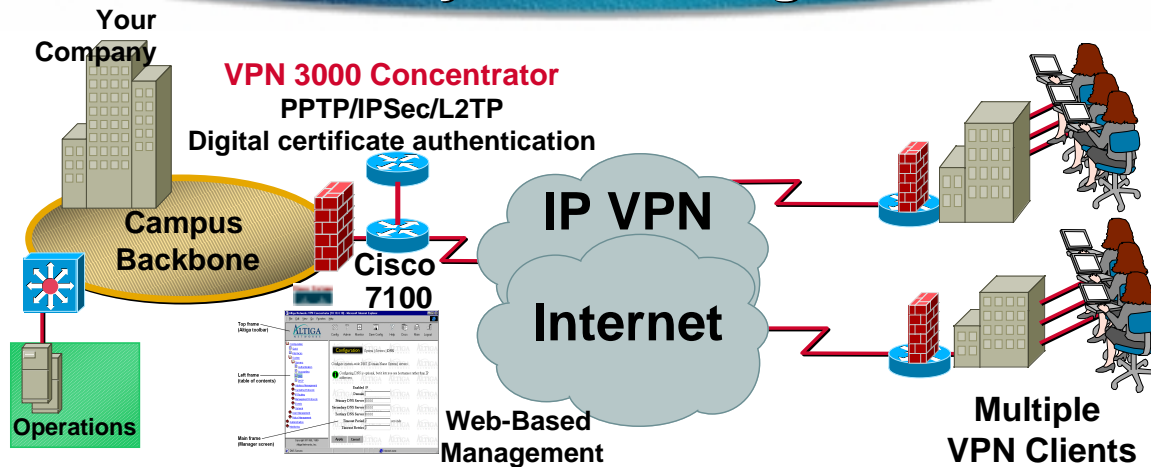
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# Centralized VPN Client Scalability and Management



- Support for 1000's of client sessions
- Client autoconfigured with user authentication
- Centrally defined policy-based network access

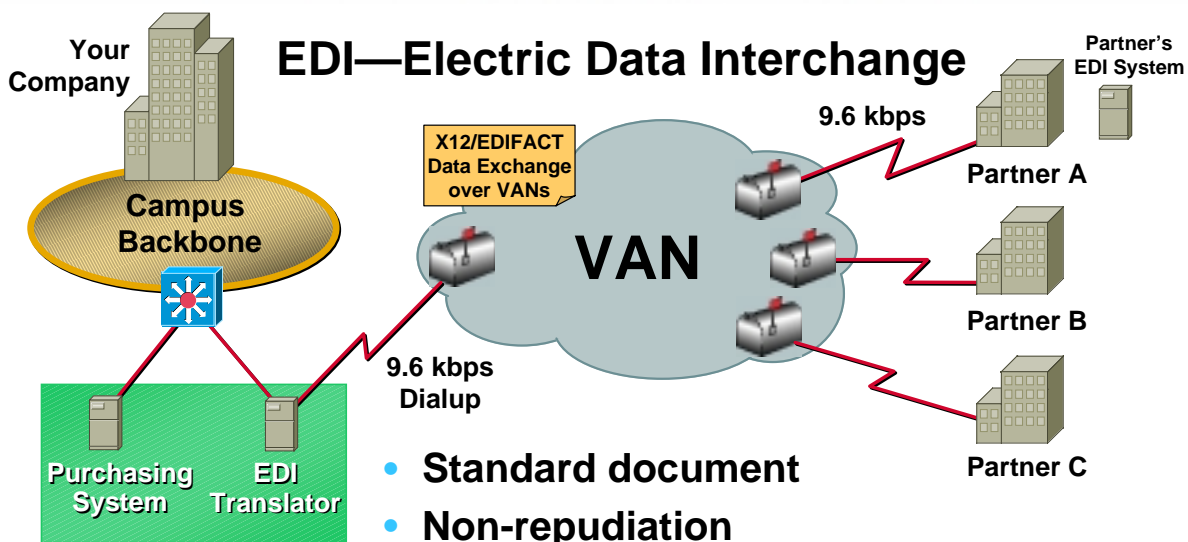
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# Dialup to Value-Added Network



- Standard document
- Non-repudiation
- Non-real-time
- Too expensive for smaller suppliers

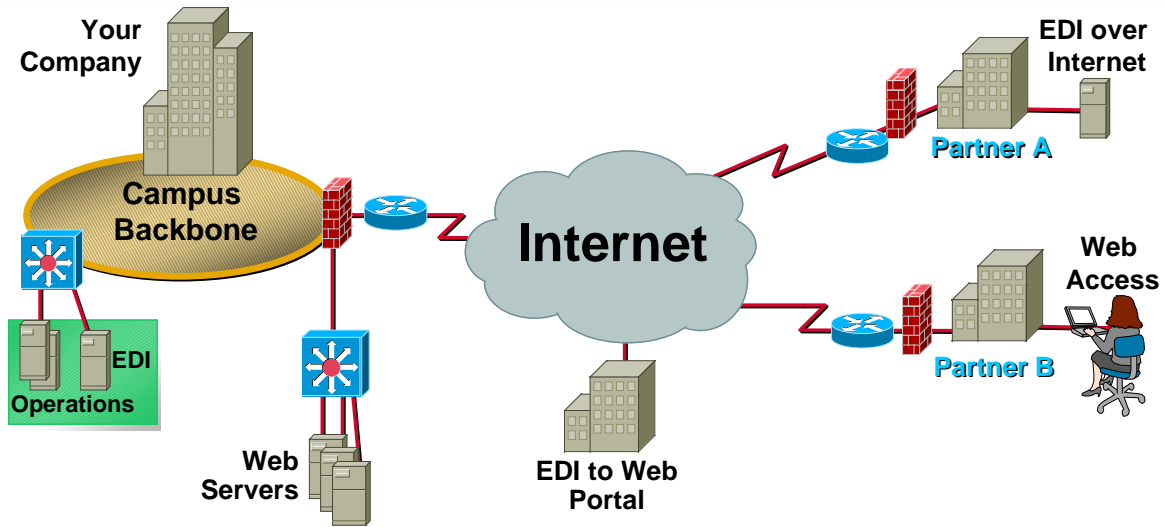
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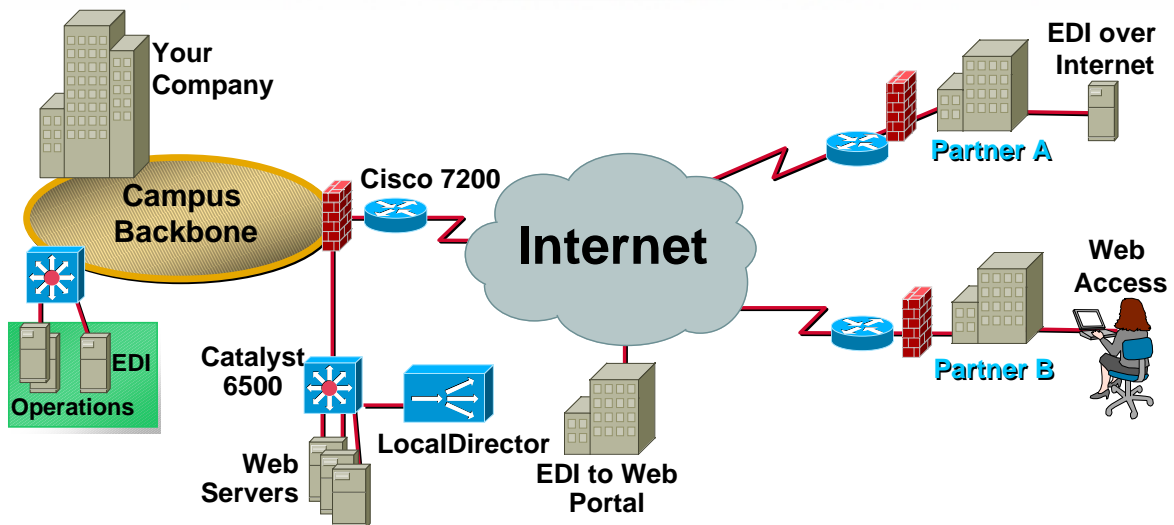
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# Web Access and EDI over the Internet



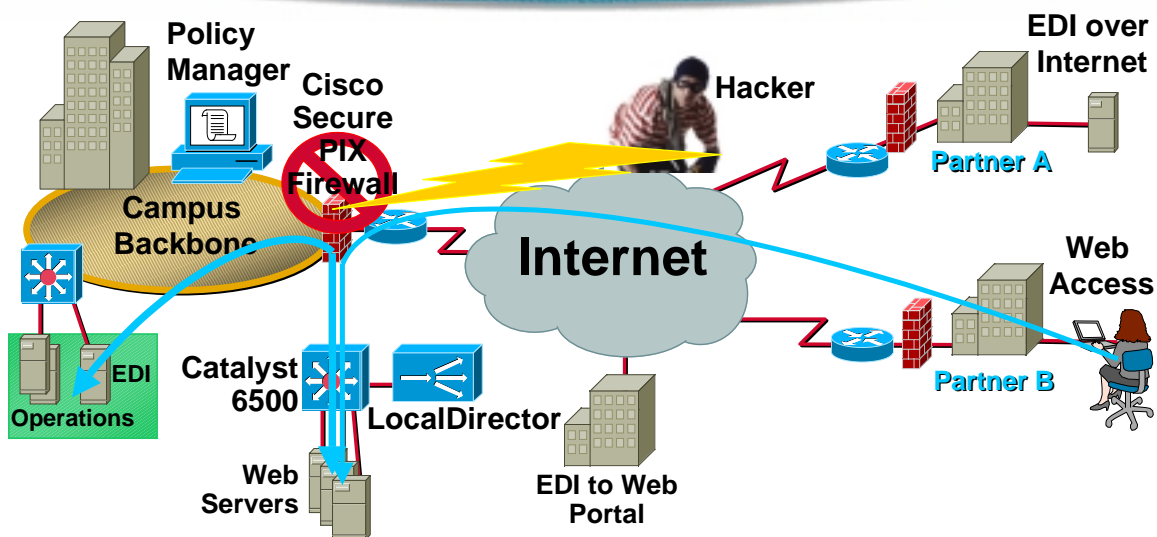
- Cost effective for all suppliers and partners
- Limited integration

# Web-Access Scalability



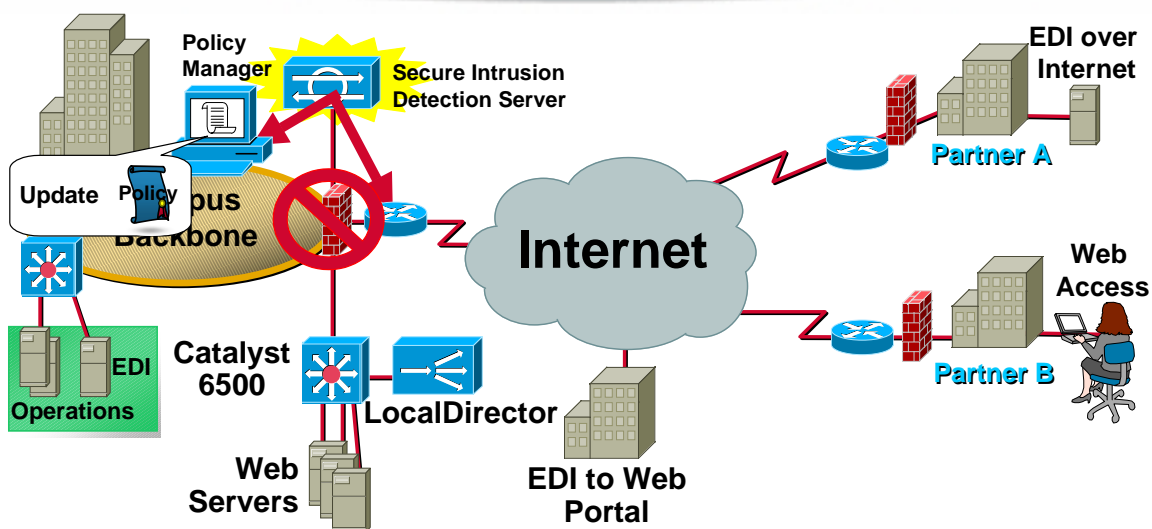
- Server Load Balancing (SLB)—scalable web access
- LocalDirector, Integrated SLB

# Web-Access Security



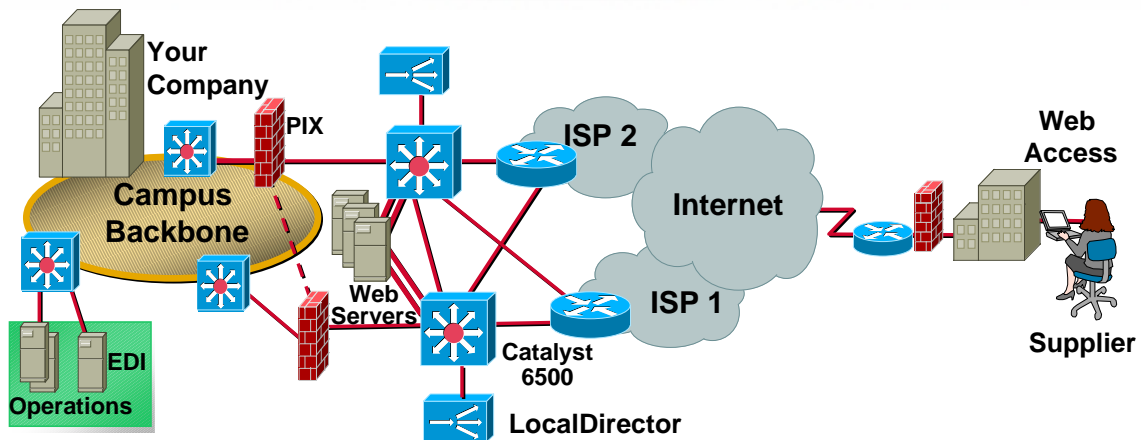
## Perimeter Security—Firewalls

# Web-Access Security



## Intrusion Detection Security Policy Management

# Web-Access Availability



- Load balancing across ISP's, network and servers
- Fast automatic fail-over—transparent to user
- HSRP, fast spanning tree, stateful failover
- Maximize server availability

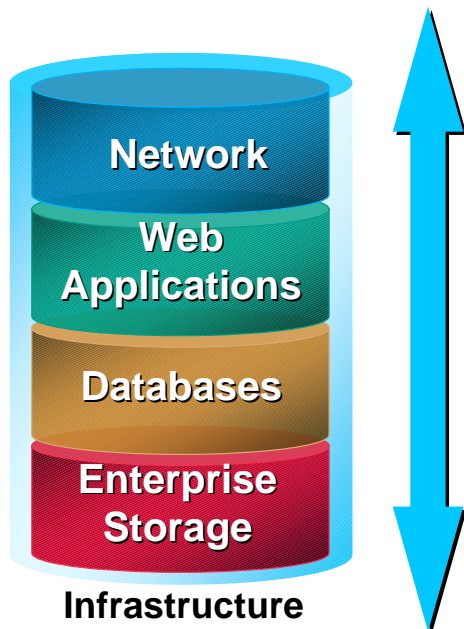
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# High Availability Across the Stack



- Minimizing planned and unplanned downtime
- Distributed intelligence
- Fast convergence
- Load balancing/  
redundancy
- Robust hardware  
and software
- Best practices

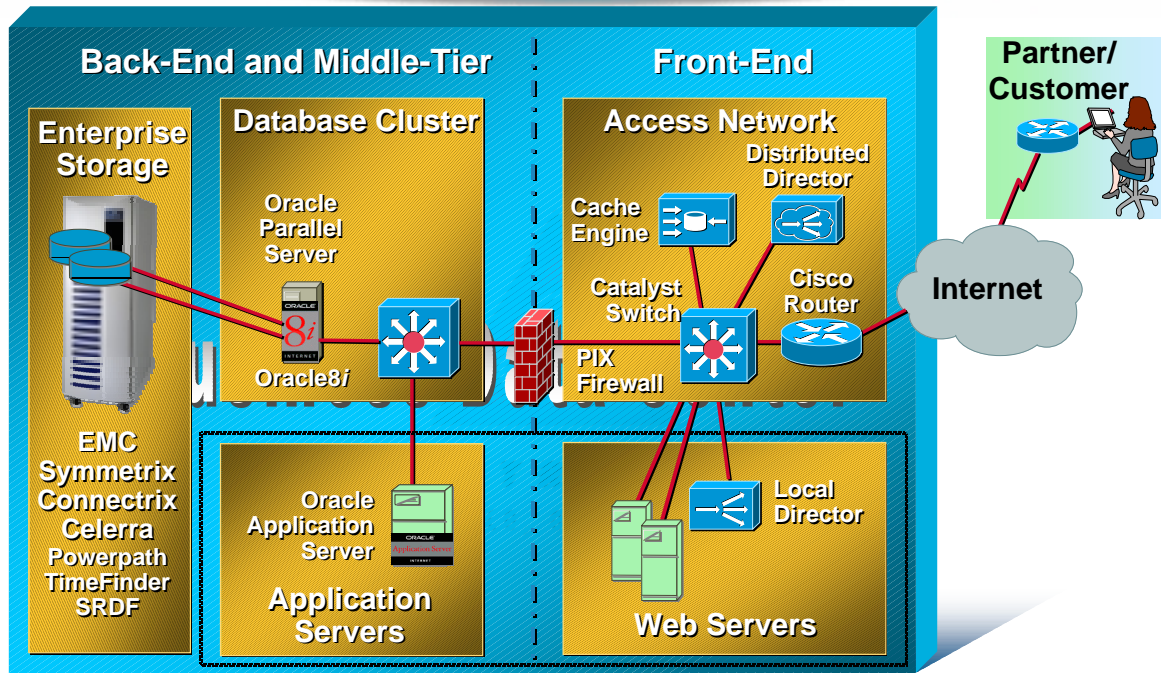
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# Partnering for Highly Available E-Business



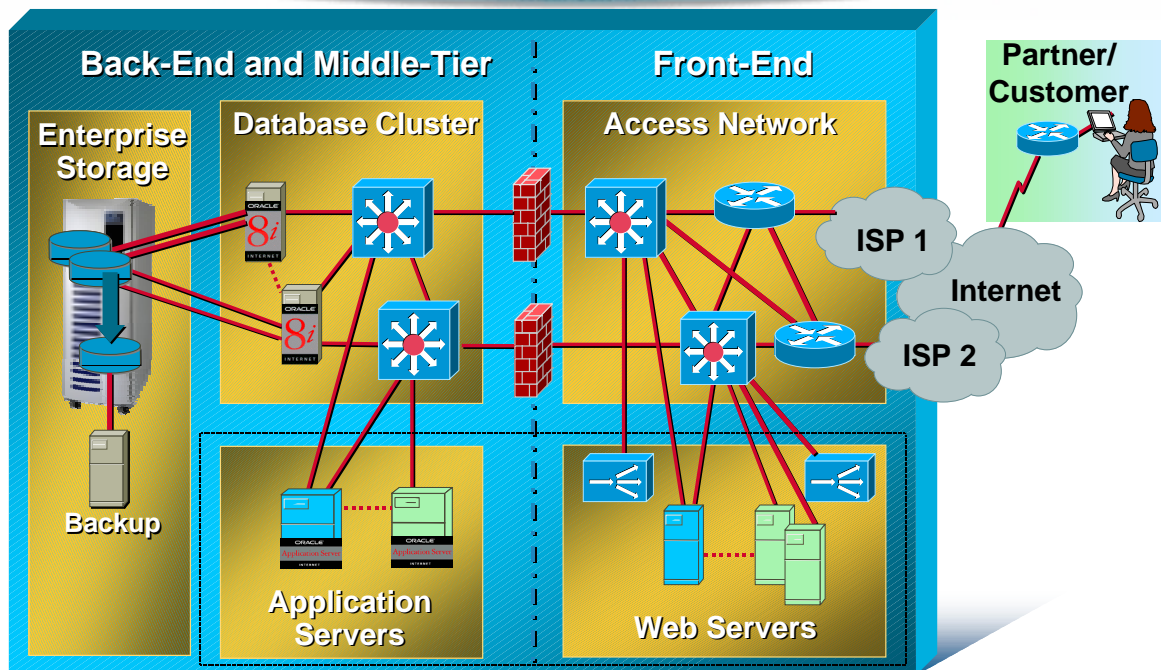
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# High Availability Foundation



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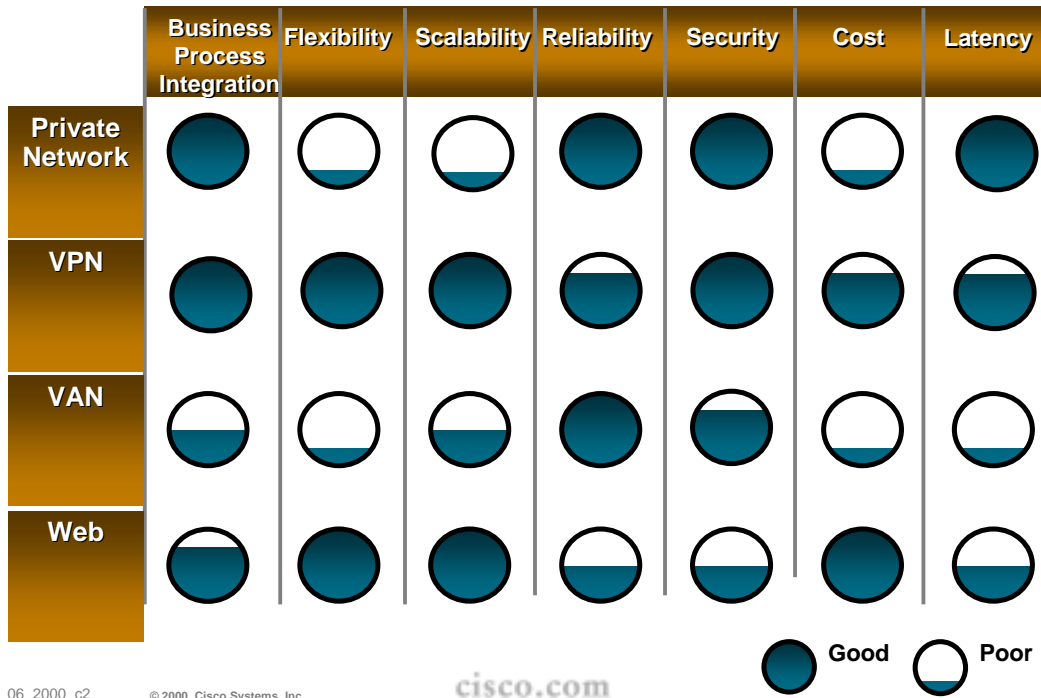
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# Network Solutions Benefits Summary



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## Cisco Case Study

### Problem:

- Scale through dramatic growth
- Increased product volume and complexity
- Higher customer expectation for delivery

### Solution:

Partnerships between key suppliers and functions in Cisco

### Results:

- \$175M annual savings
- \$269M revenue contribution
- 56% product outsourced
- >90% factories are partner owned
- 45% reduction in supply chain inventories



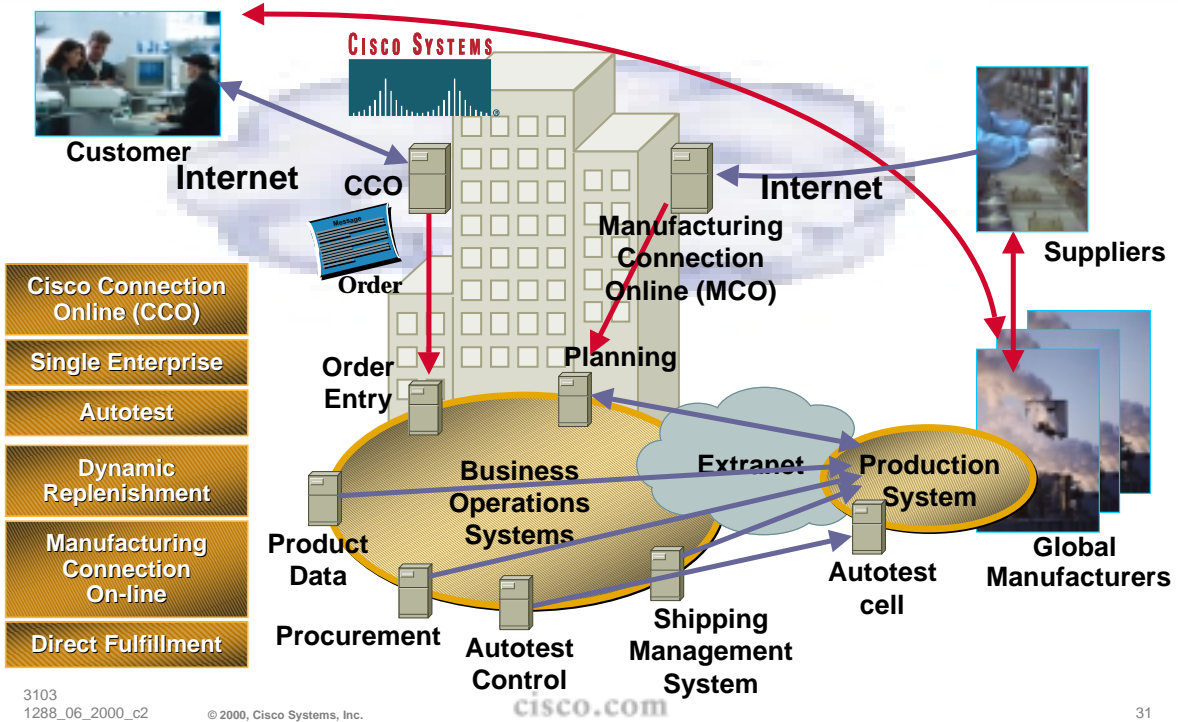
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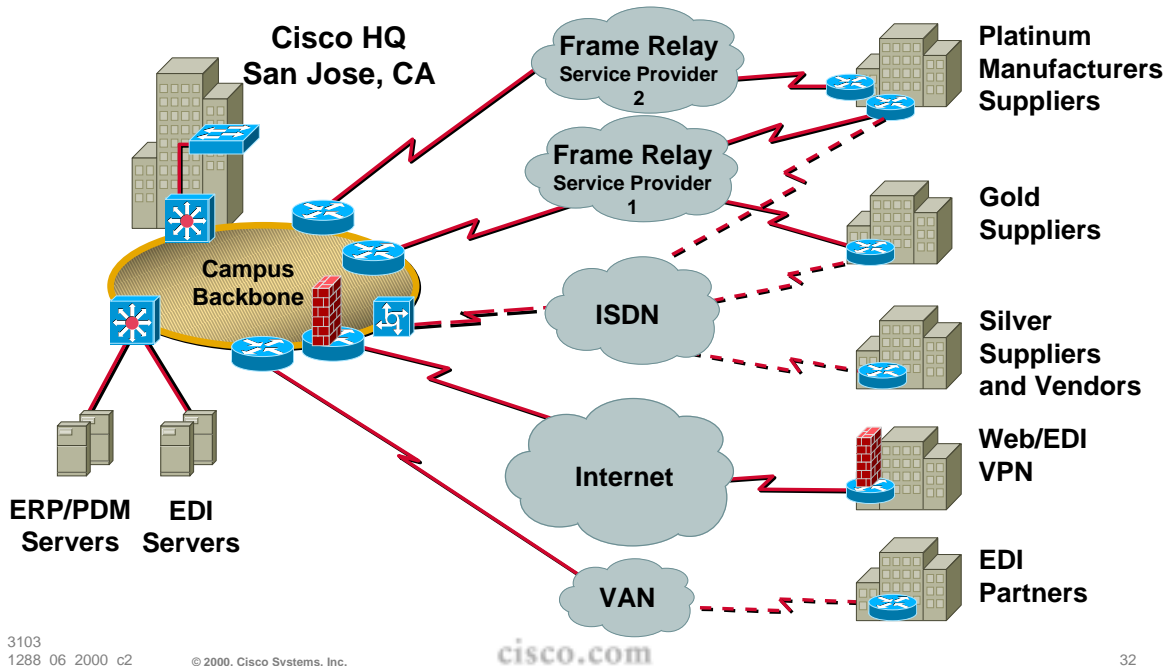
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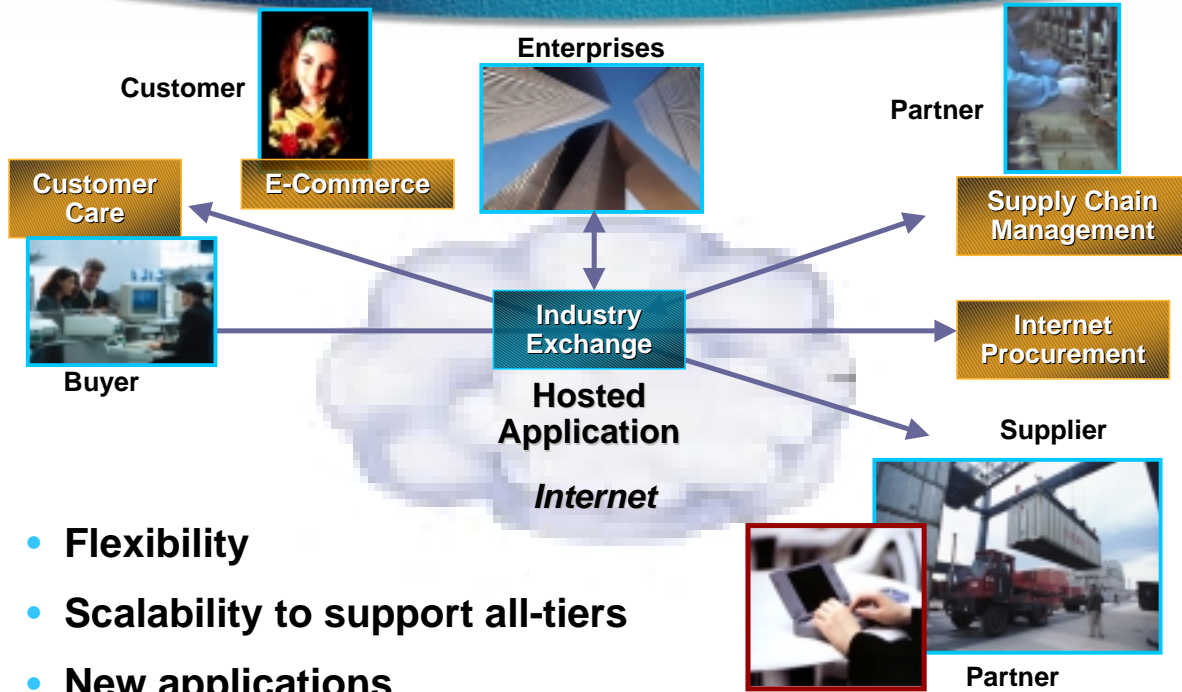
# Elements of Cisco's Supply-Chain



# Cisco's Partner Network



# Emerging Industry Exchanges



- Flexibility
- Scalability to support all-tiers
- New applications

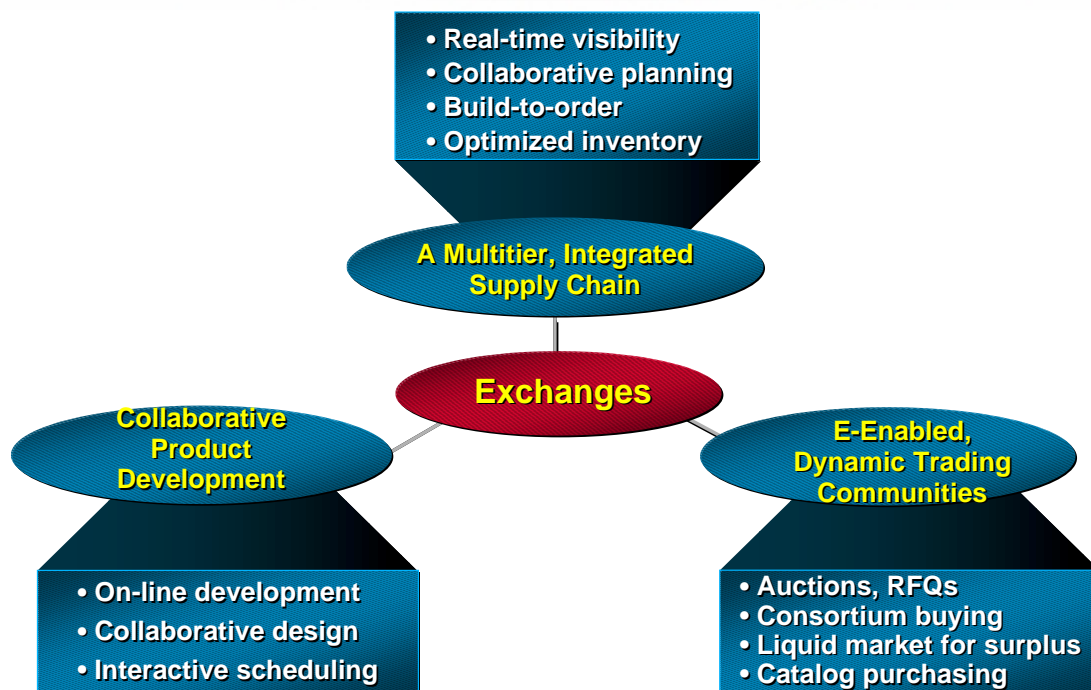
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# Industry Exchange Applications



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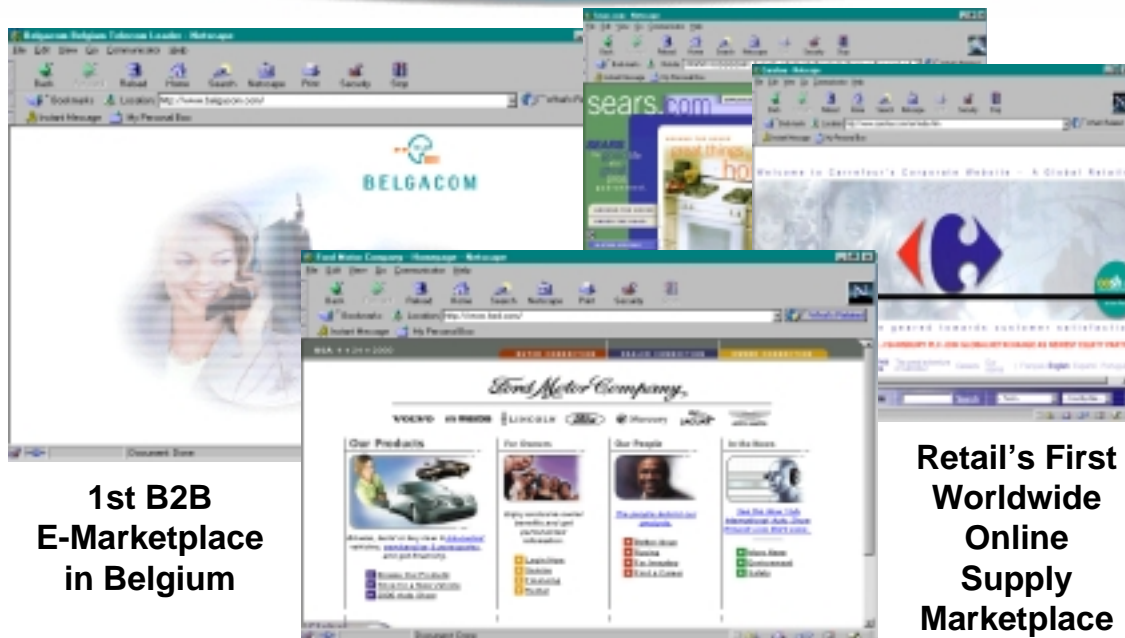
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# Industry Exchange Predictions

- **10,000 B2B exchanges by 2003**  
(source: Gartner)
- **\$7.29 trillion in B2B commerce by 2004**  
(source: Gartner)
- **250 million business users procuring over the Internet by 2003** (source: IDC)
- **40% of B2B will be captured by B2B exchanges by 2004** (source: "B2B Exchanges")

# Industry Exchanges Today

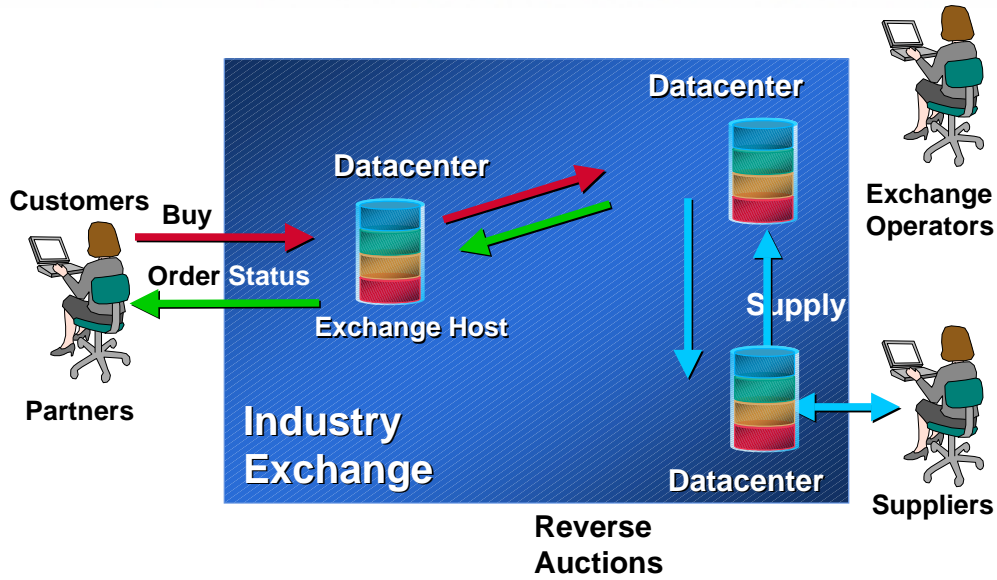


**1st B2B  
E-Marketplace  
in Belgium**

**Retail's First  
Worldwide  
Online  
Supply  
Marketplace**

**Multi-Billion-Dollar B2B Internet Venture**

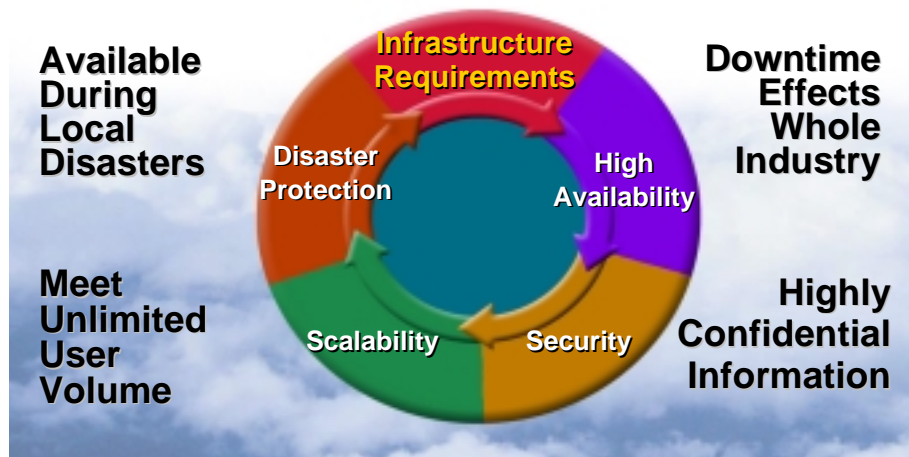
# Industry Exchange



**Secure, Guaranteed Delivery of Messages and Transactions**

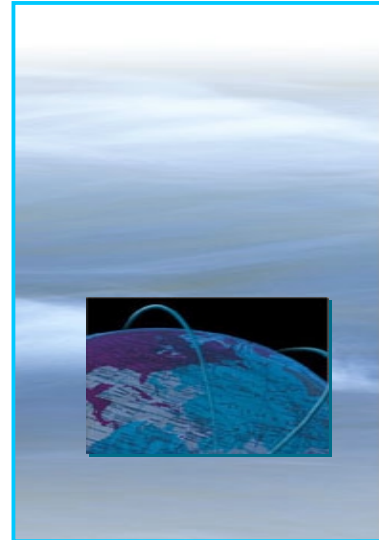
# Industry Exchange Infrastructure Requirements

**Exchanges Behave Like Public Utilities**



# What's Next

- **Attend other related Networkers presentations:**
  - E-Commerce**
  - Introduction to VPNs**
  - Advanced Topics in Enterprise VPN's and PKI**
  - VPN Product Update**
- **Understand your supply-chain business goals**
- **Engage Cisco and ecosystem partners**
- **Develop networking strategy and choose appropriate infrastructure(s)**



## Networked Supply Chain Management

### Session 3103



# Please Complete Your Evaluation Form

## Session 3103

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# CISCO SYSTEMS



## EMPOWERING THE INTERNET GENERATION<sup>SM</sup>

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