



CLIENT LOGIN

# TREASURY RESOURCES

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given by:

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# EFT and EDI: 101

## *The Basics*

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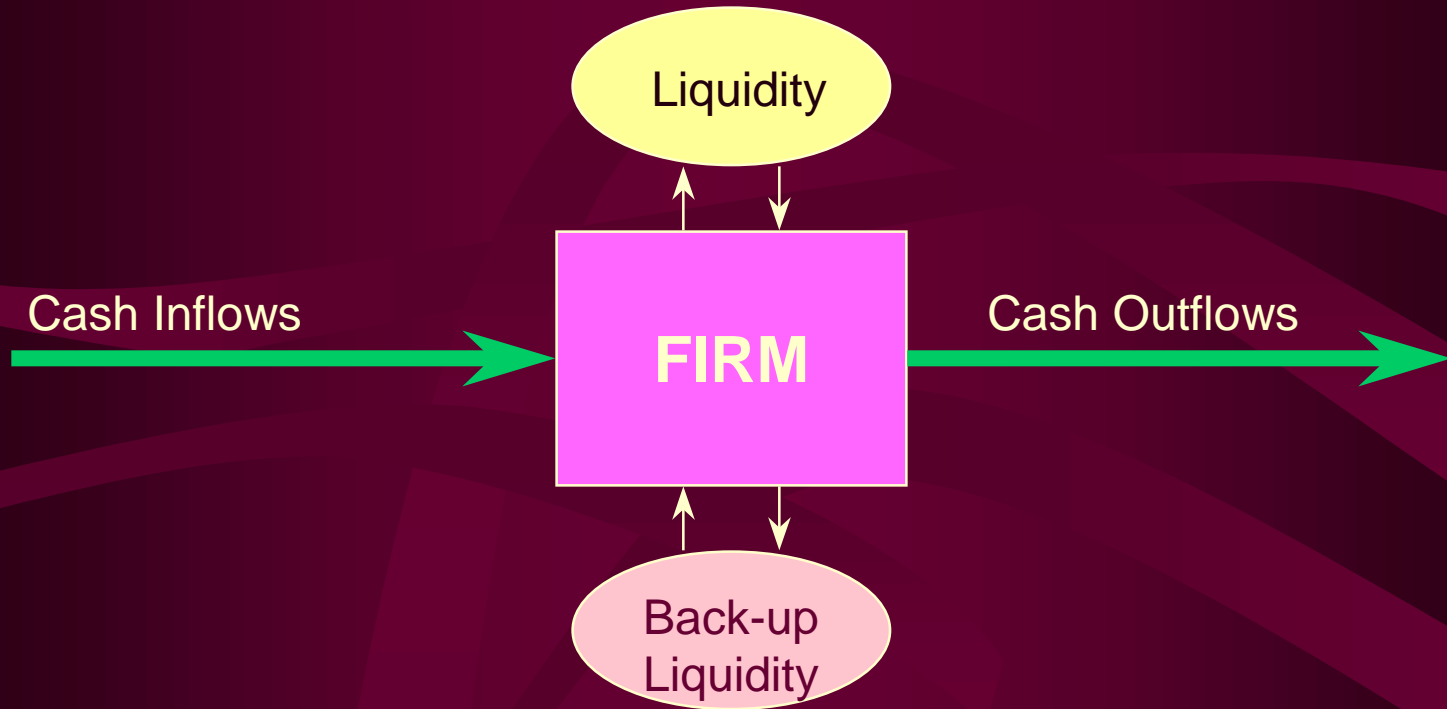


BOB JONES 2048  
DATE \_\_\_\_\_  
PAY TO THE ORDER OF \_\_\_\_\_ \$ \_\_\_\_\_  
DOLLARS  
**FIRST NATIONAL BANK**  
⑆00 2100 6 770 ⑆ 984078 ⑆ 2121

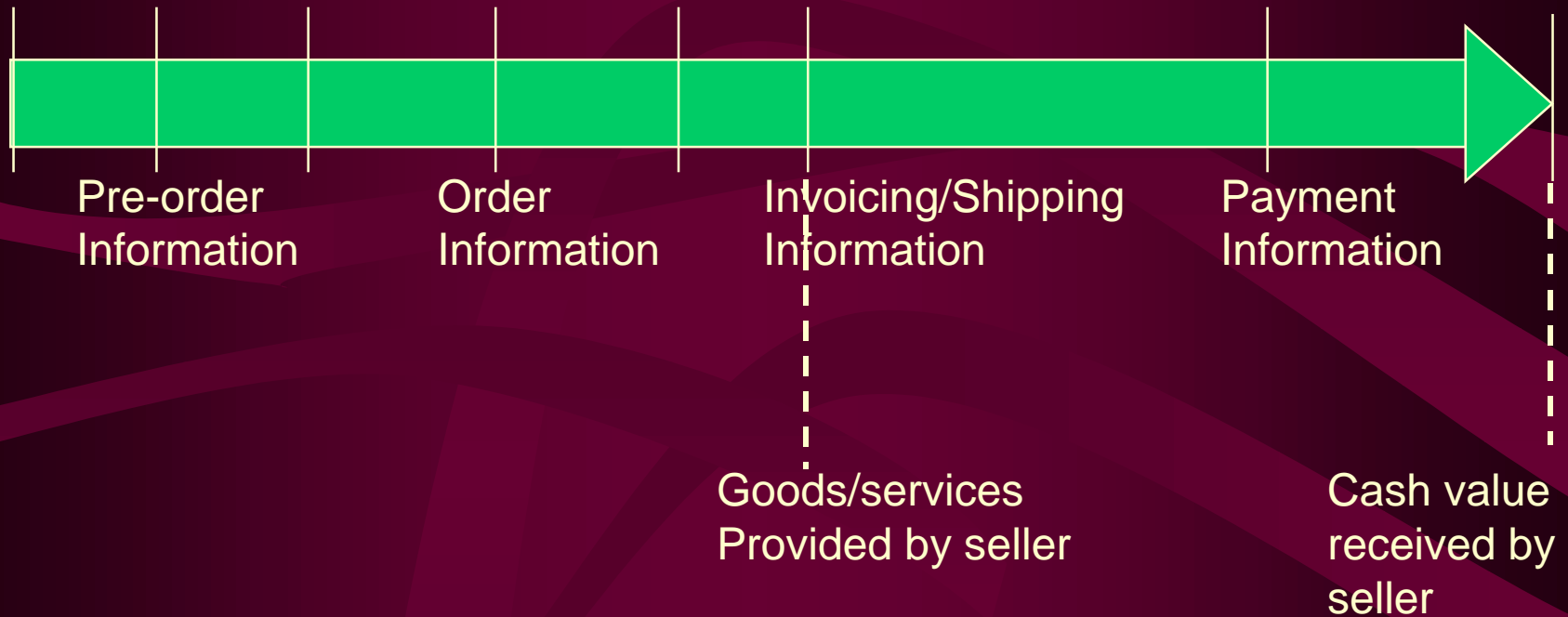
# Outline

- What's wrong with paper?
  - What is Electronic Commerce anyway?
  - How does EDI work?
  - How does it benefit business?
- What's wrong with checks?
  - What is FEDI and how is it superior to paper and “normal” EFT?
  - How are firms using FEDI?

# Where's the Cash?



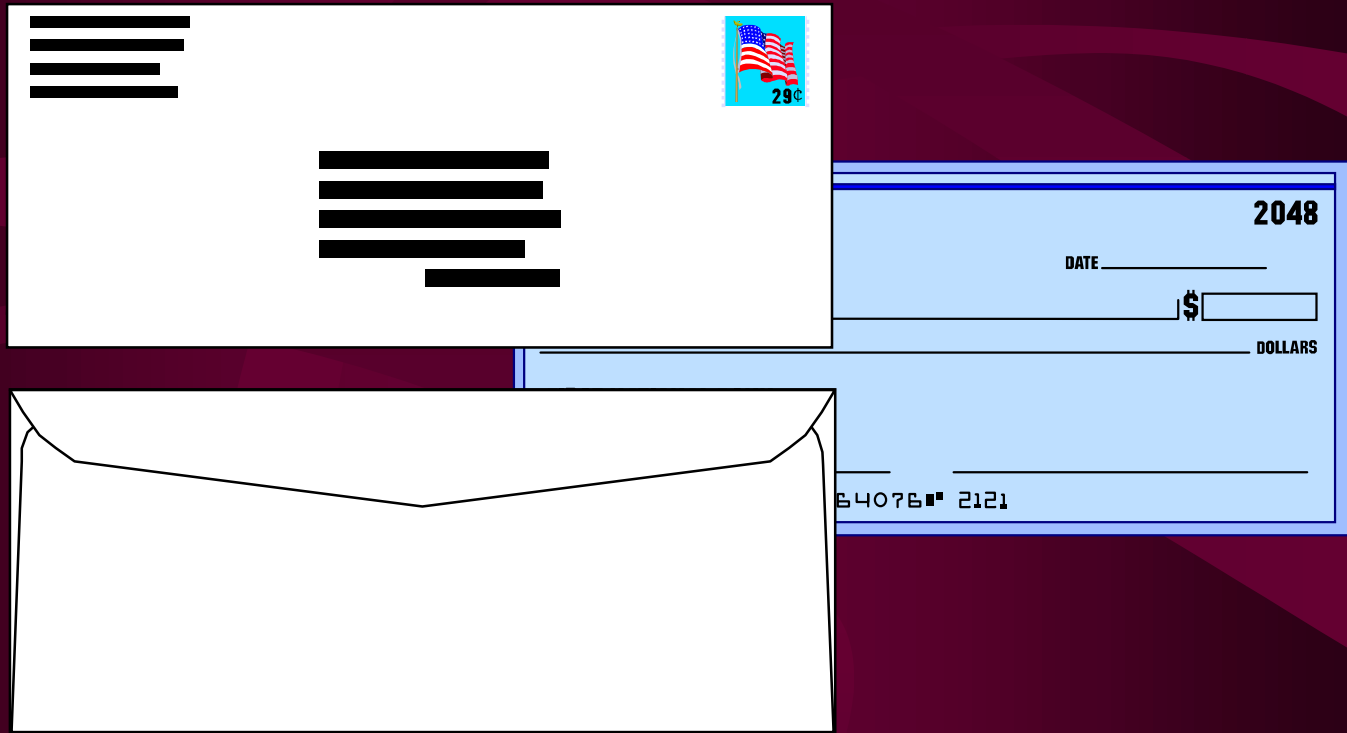
# Cash Flow Timeline



# Objectives of the Firm

- Reduce Inflow Timeline
- Expand Outflow Timeline
- Reduce Idle Balances
- Reduce Transaction Costs
- Maintain/improve Supplier and Customer Relationships
- Reduce Errors
- Improve Certainty
- Better Management Information

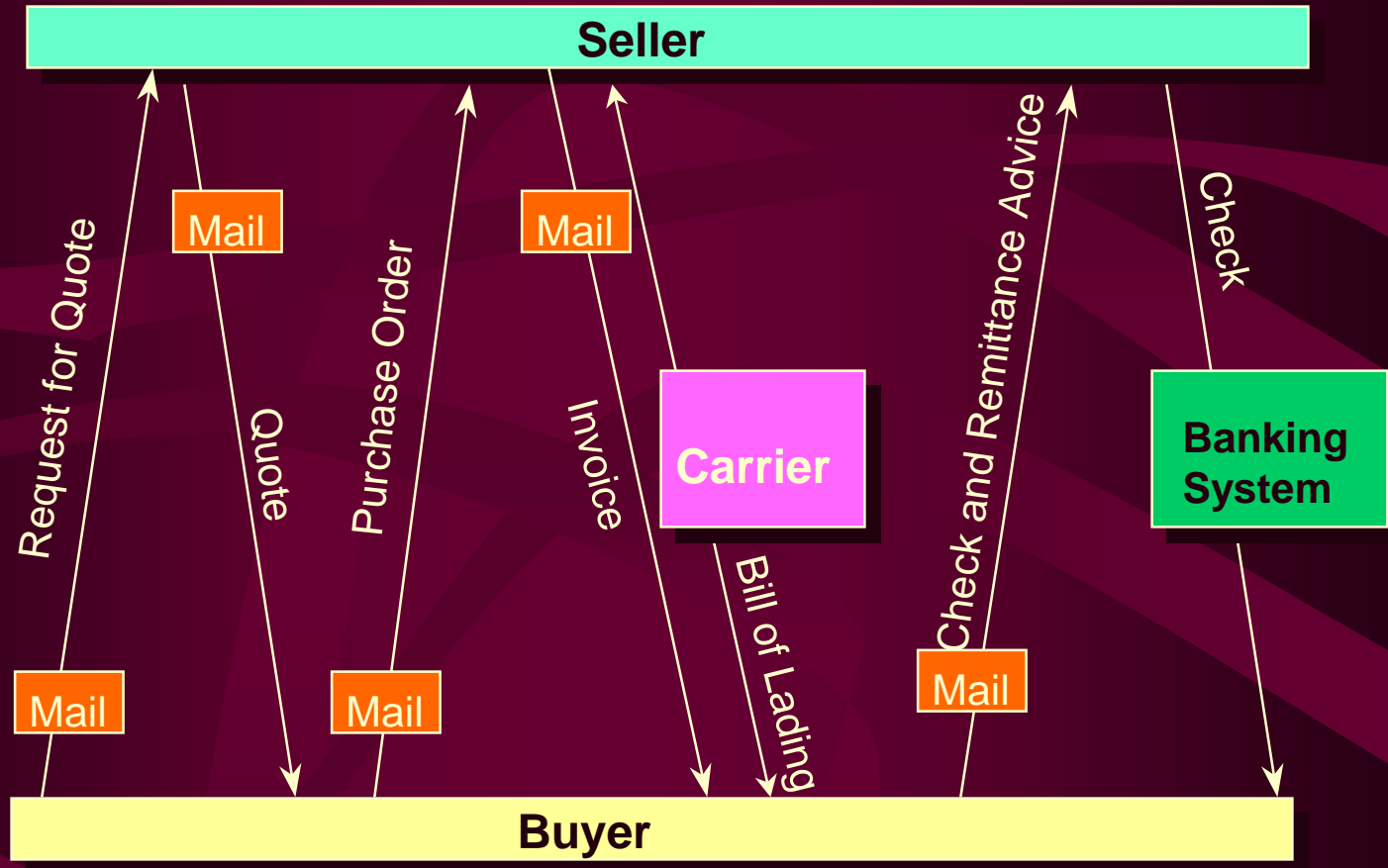
# Old Paradigm: Paper Processing



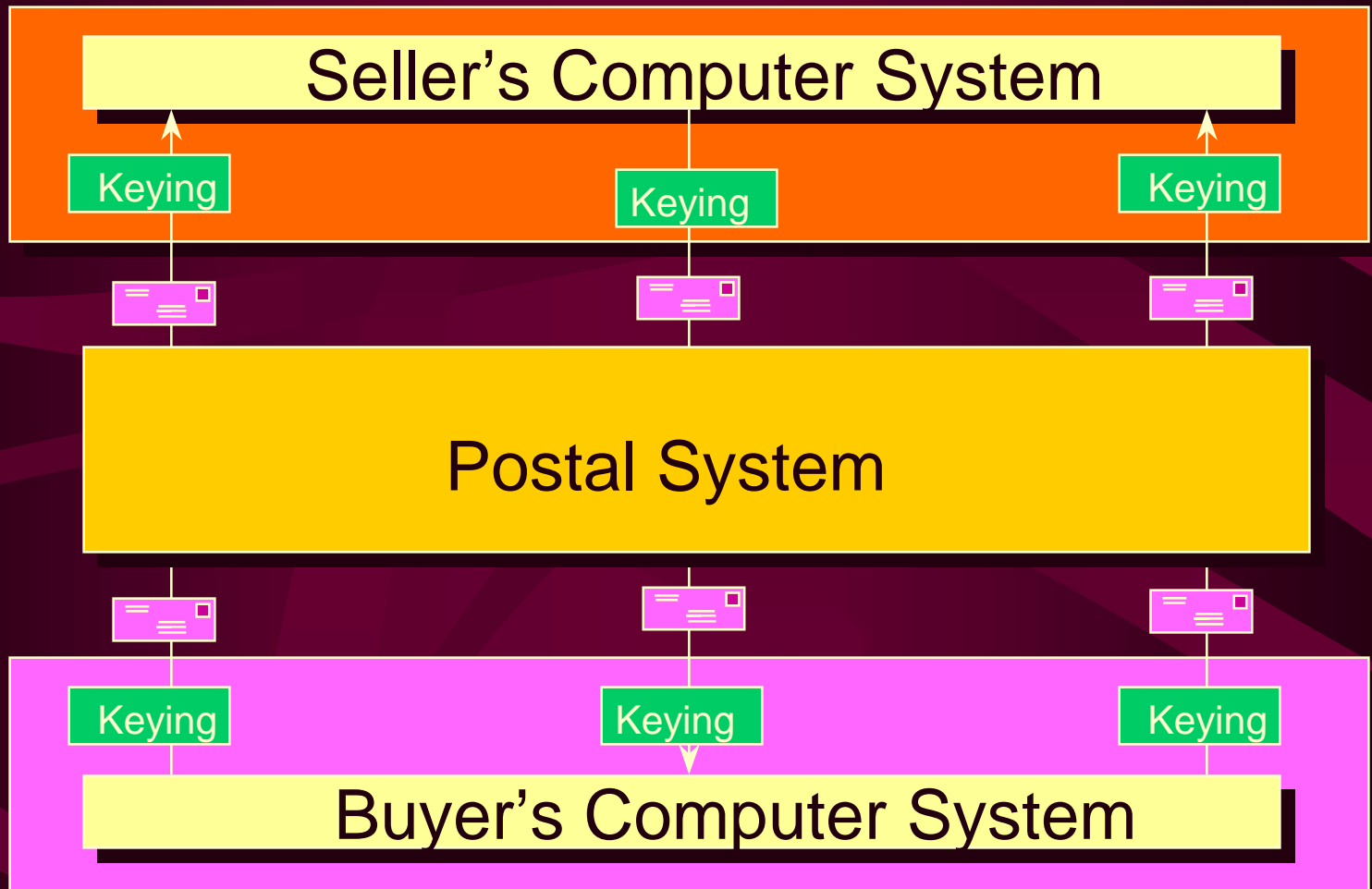
# The Paper Paradigm

- Information is Exchanged on Paper
- Computers Help Us Generate Paper Faster
- Focus of Cash Management: Take Advantage of Paper
  - Lockboxes
  - Remote disbursing
  - Optical scanning
  - Fed Express
- Expand Business -- Expand People Handling Paper
- Linear Processing

# Transactions in the Paper Paradigm



# Keying in the Paper Paradigm



# What's Wrong with the Paper Paradigm?

- Labor intensive
- Slow
- Error prone
- Uncertain
- Excessive inventory (and cash)
- Bottom Line: IT'S EXPENSIVE

# What Can We Do?

- Option 1: Make paper work even harder
- Option 2: Replace the paper paradigm

# The Paperless Paradigm

- Paper is not needed to store/transfer information
- Information resides in data files on both sides of a transaction
- Computers can be networked to exchange this information
- Let computers do processing
- Let people make decisions
- Computers can get information to where it is needed by decision makers

# Definitions of e-Commerce

Simple: “The selling of products and services using the Internet.”

More General: *The use of computer and communication technology to facilitate the information exchange between two parties in a commercial transaction.*

# Electronic Commerce

*The use of computer and communication technology to facilitate the information exchange between two parties in a commercial transaction.*

- Intent is to automate
- Often an intermediate entity involved
  - ❖ Bank
  - ❖ Transportation agent
  - ❖ Government agency
  - ❖ VAN (value added network)

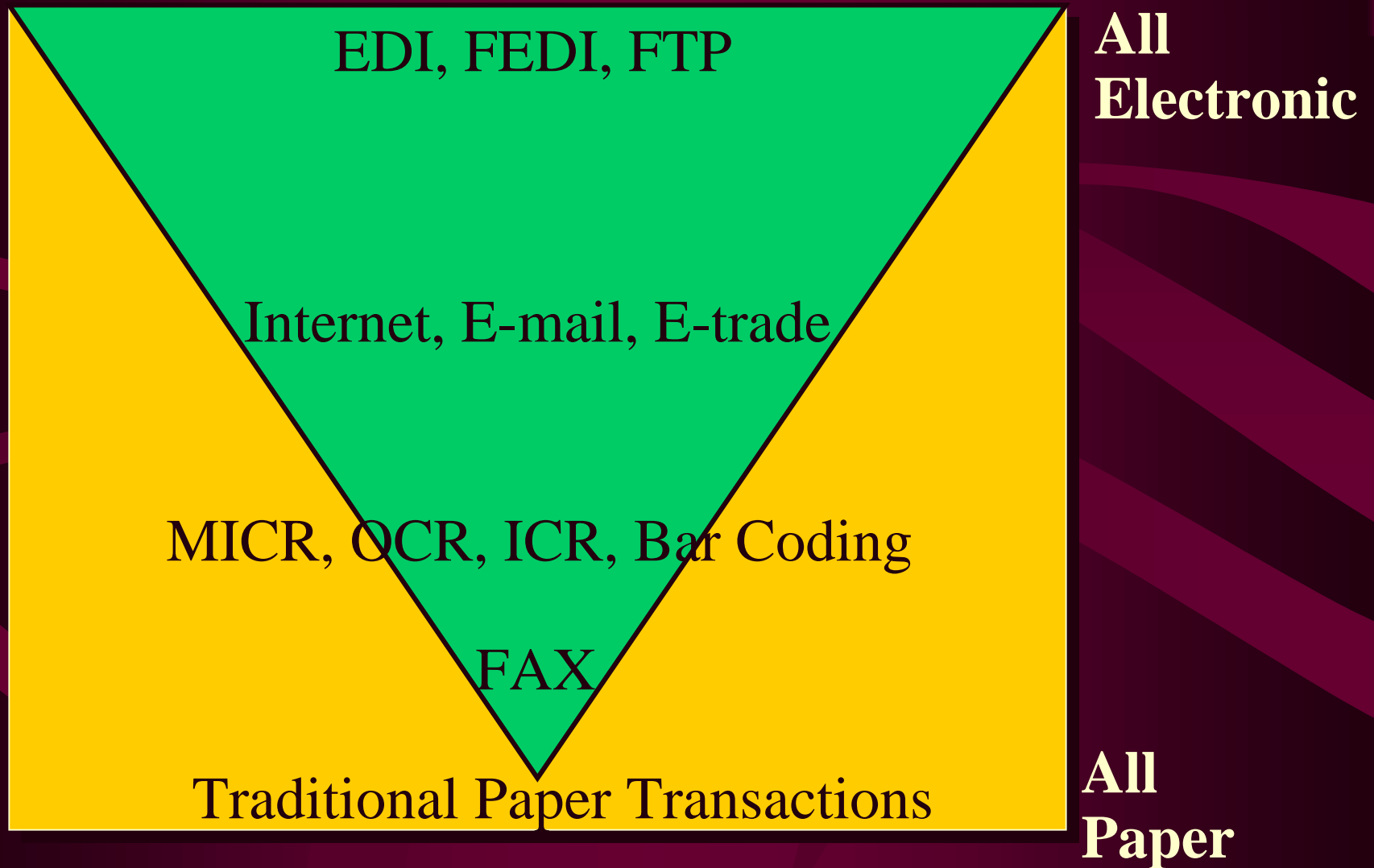
# Types of Electronic Commerce

- Paperless:
  - Application to application
    - Electronic data interchange (EDI)
    - Financial EDI (firm to bank)
    - File transfer
  - Manual to application
    - Web applications
    - Electronic order entry
    - E-mail
    - Financial service delivery (e.g., E-Trade)

# Types of Electronic Commerce-cont.

- Physical media assisted by computers:
  - Facsimile transmission
  - MICR, OCR, ICR
  - Bar coding
  - RF

# Types of Electronic Commerce



# For Business Transactions: EDI

EDI is the use of computers and telecommunications to exchange business data between computers in a structured format that does not require manual intervention.



# What EDI Is and Isn't

Highly Unstructured

Highly Structured

**Electronic Messaging**

**Facsimile  
Transmission**

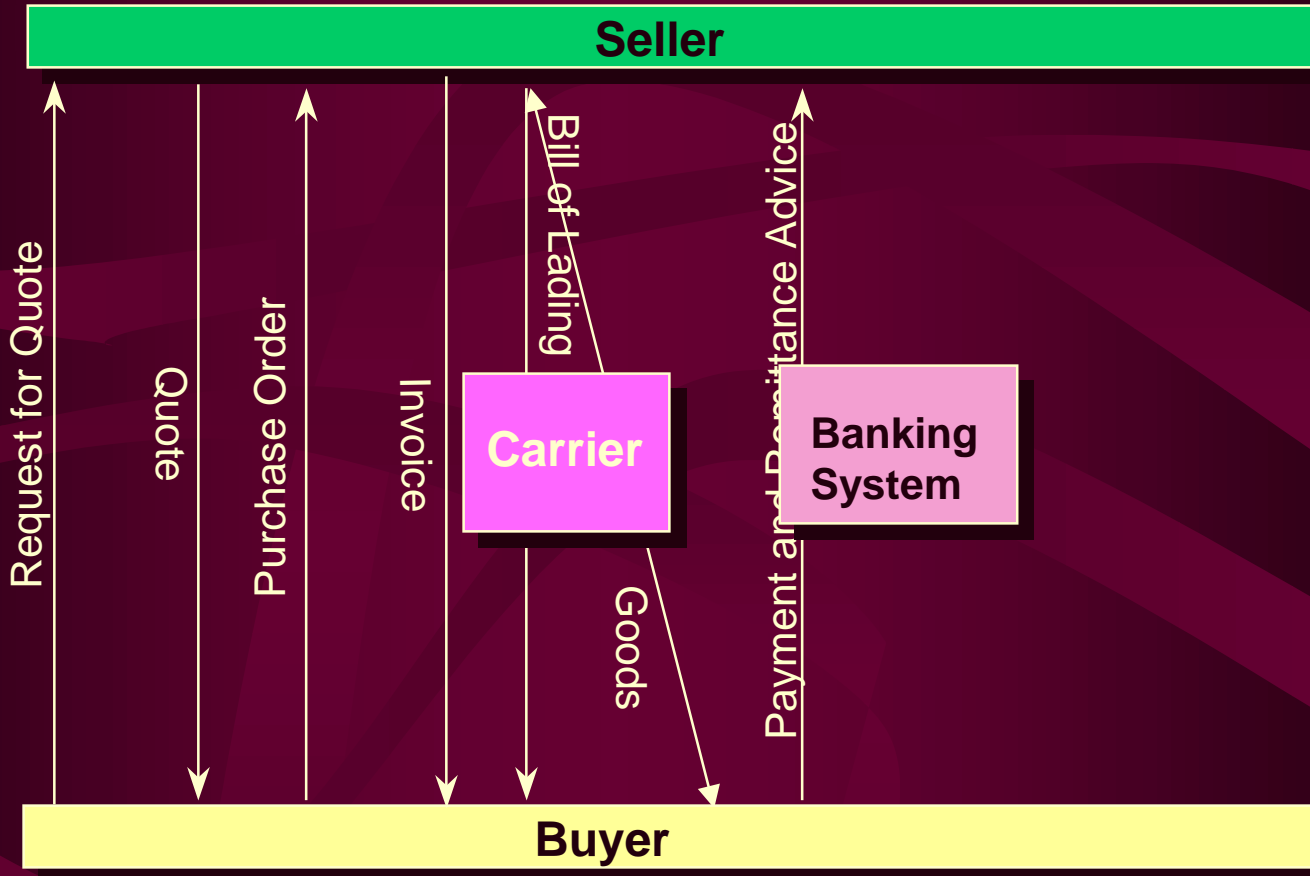


**Electronic  
Mail**

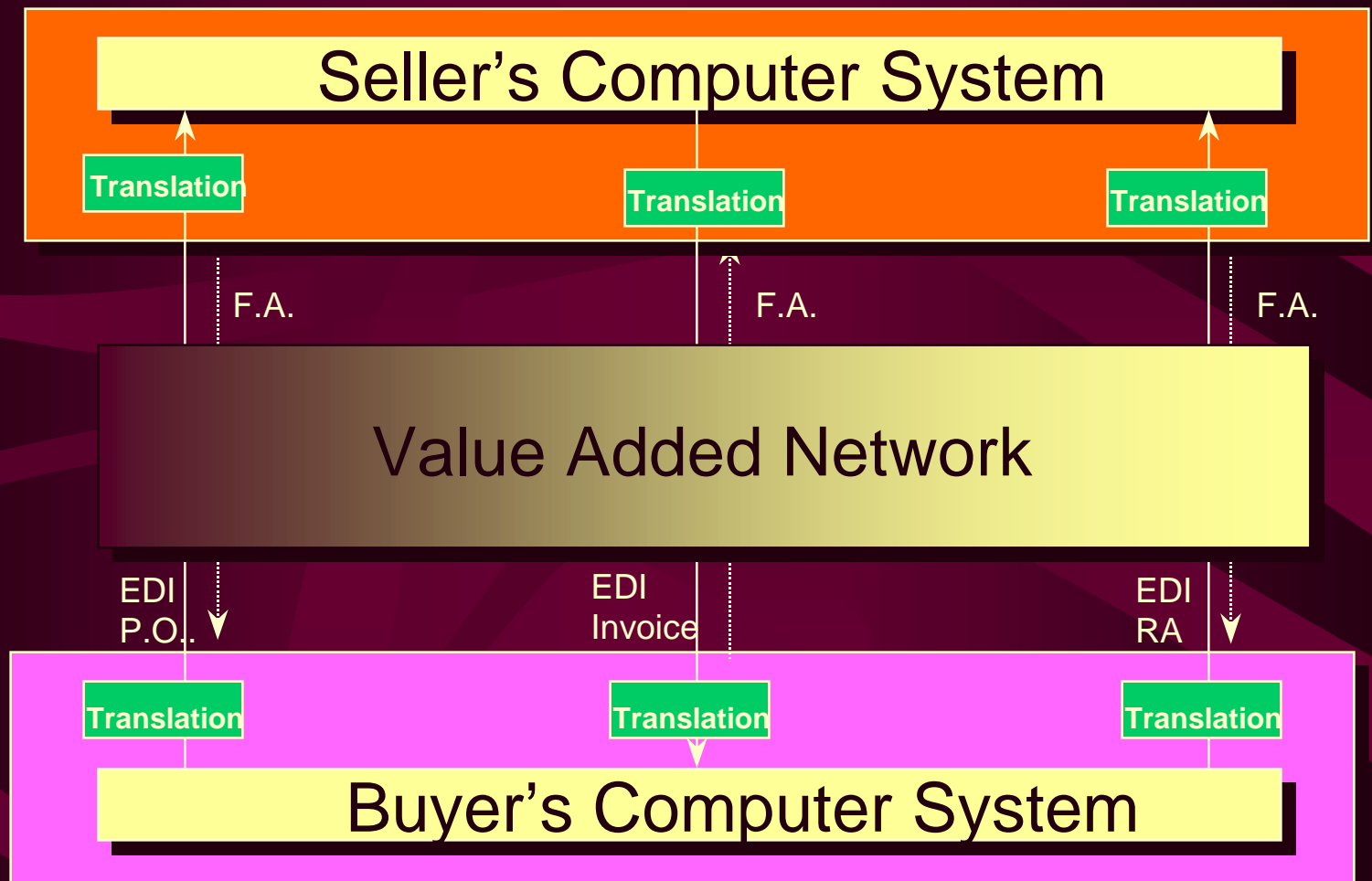


**EDI**

# Transaction with the Paperless Paradigm



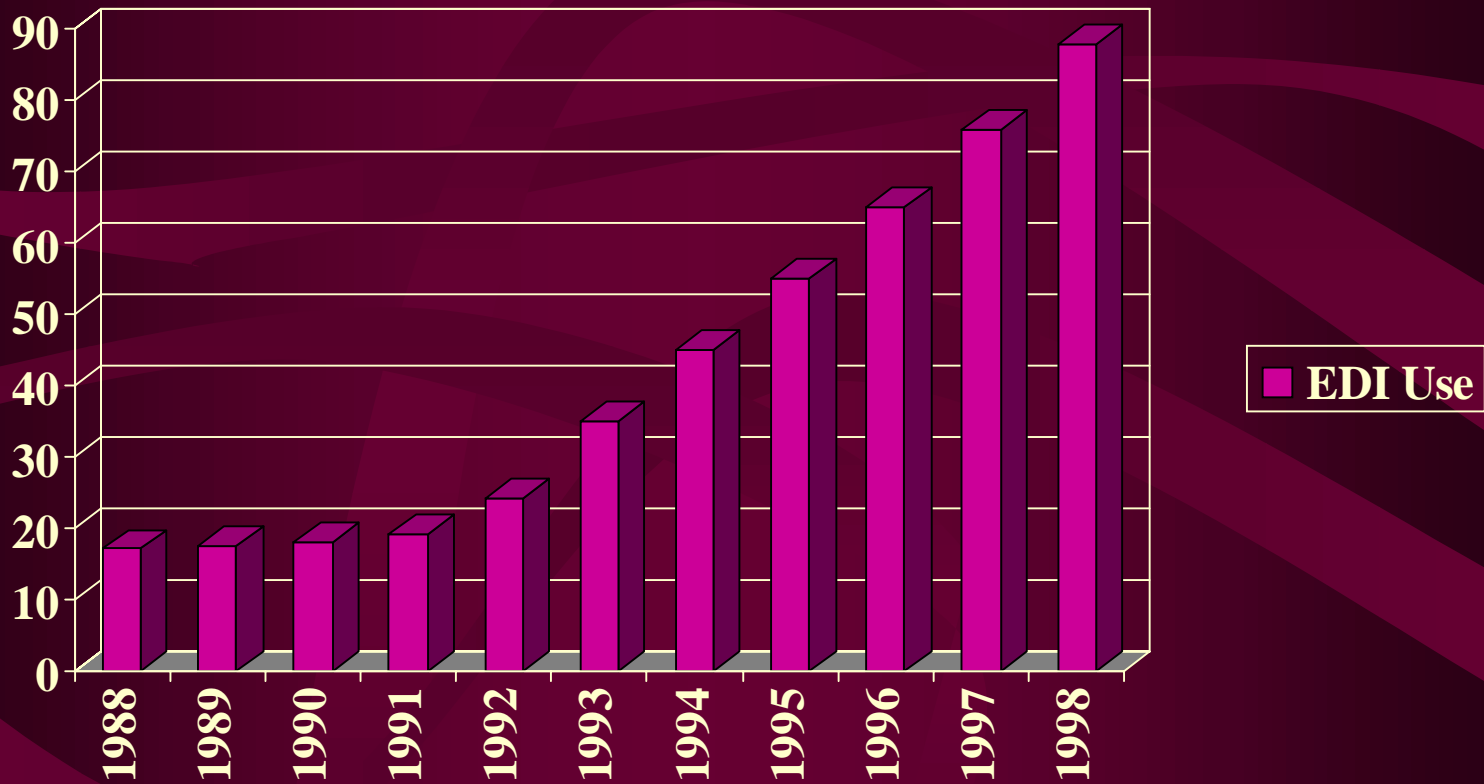
# Keying in a Paperless Paradigm



# Benefits of the Paperless Paradigm

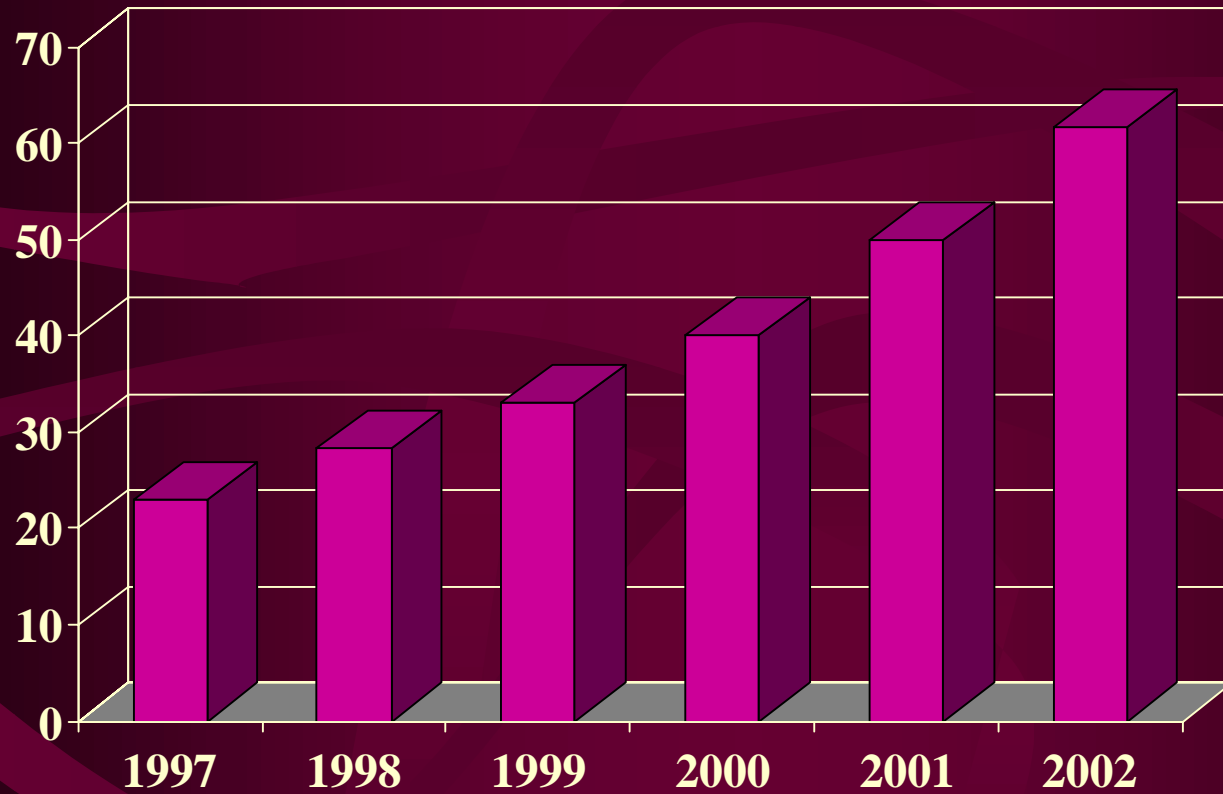
- Lower personnel costs
- Reduced error rates
- Faster cycle time
- Improved customer service
- Reduced inventory
- Fewer stock-outs
- Reduced paper handling costs
- Faster payments
- Better control over information

# How fast is EDI growing?



# Online Households

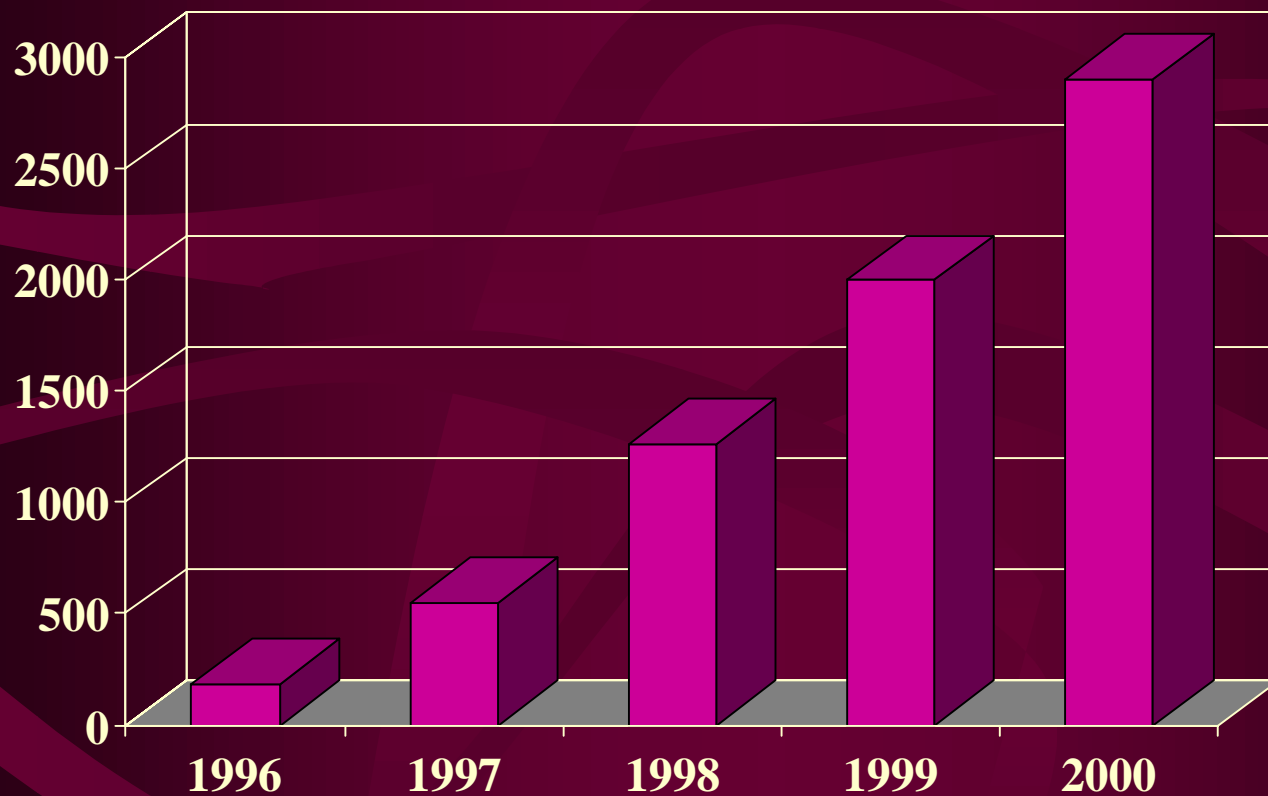
Million



From *Net Profit* by Peter S. Cohan

# Web Ad Revenues

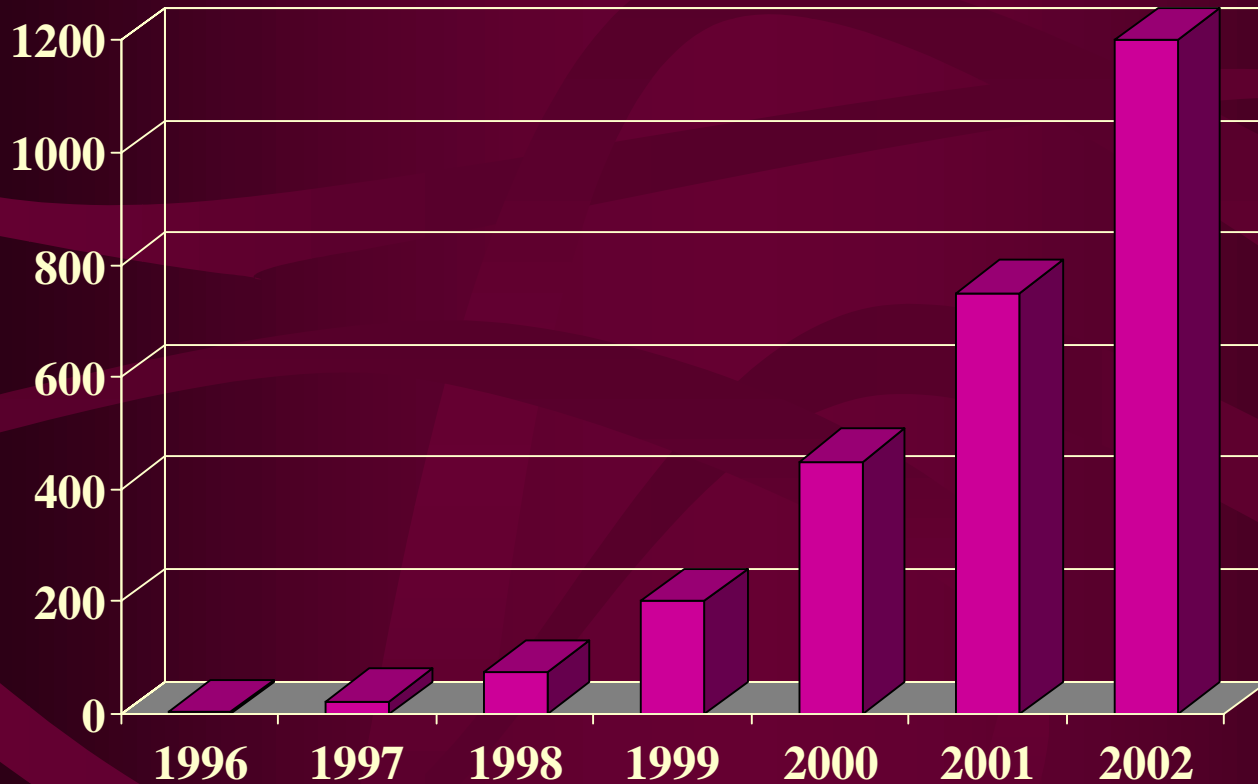
\$ Million



From *Net Profit* by Peter S. Cohan

# Business Through the Web

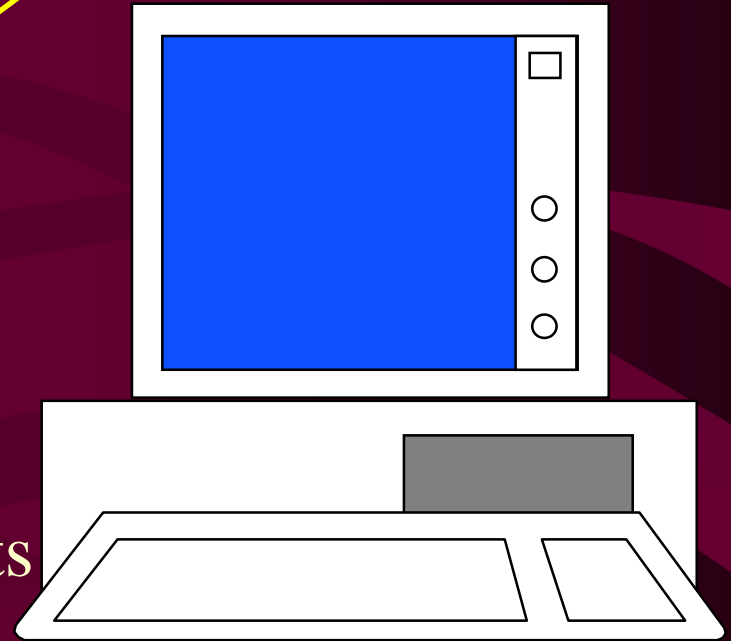
\$ Billion



Est. from the U.S. Department of Commerce

# Why EDI now?

- Labor costs
  - Paper costs
- VS.
- Computer costs
  - Telecommunication costs

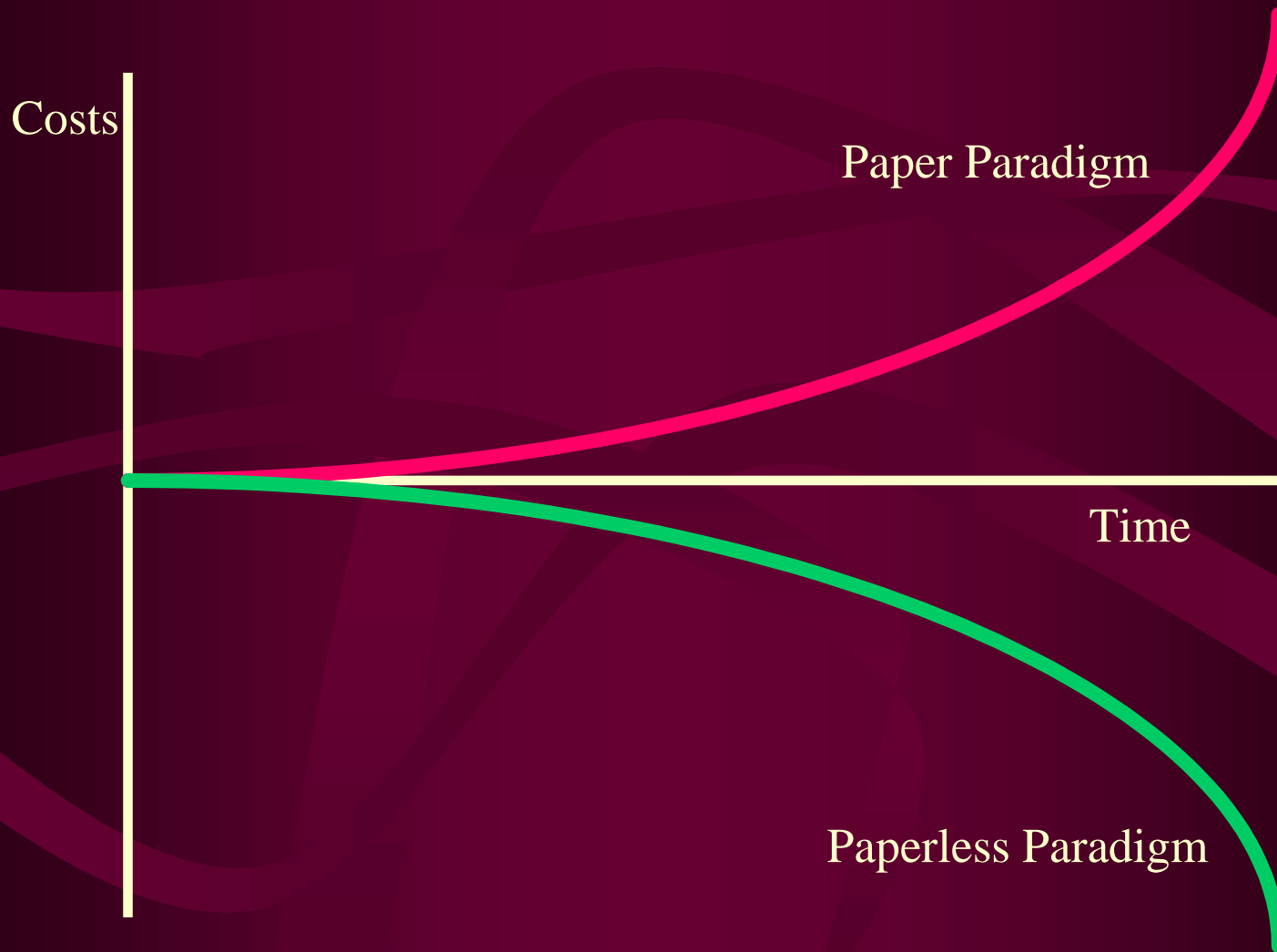


Competitive pressures

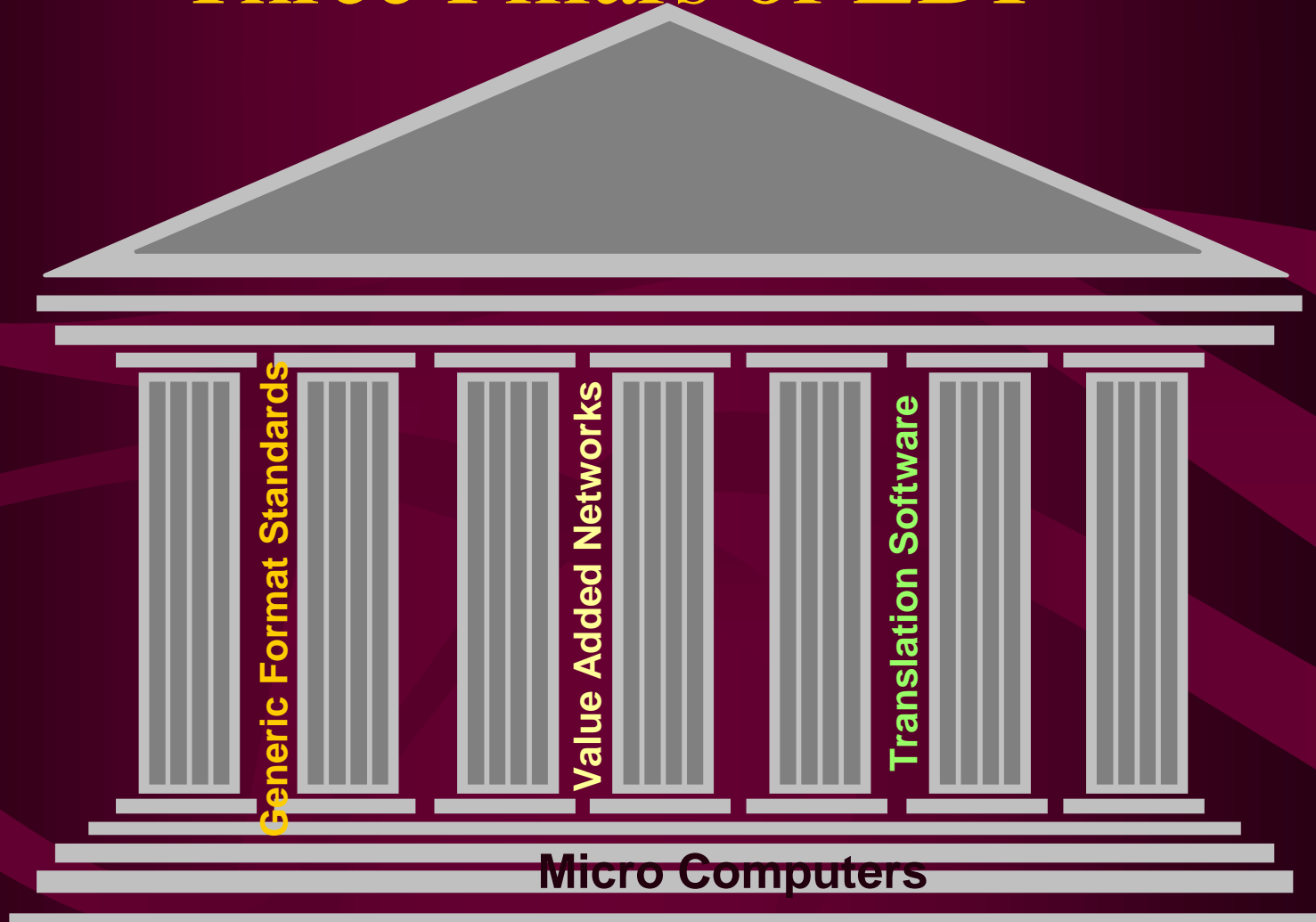
## Time Required to Transmit the 32 Volume *New Encyclopedia Britannica*

- 1200 bps modem..... 28 days
- 9600 bps modem..... 3.5 days
- 28.8 Kb modem..... 28 hours
- Basic Rate ISDN..... 6.3 hours
- T-1 line..... 31 minutes
- T-3 line..... 1 minute
- ATM-SONET (OC-3)..... 17 seconds
- ATM-SONET (OC-12)..... 4.7 seconds
- Newly proposed technology... .005 second

# Consequences

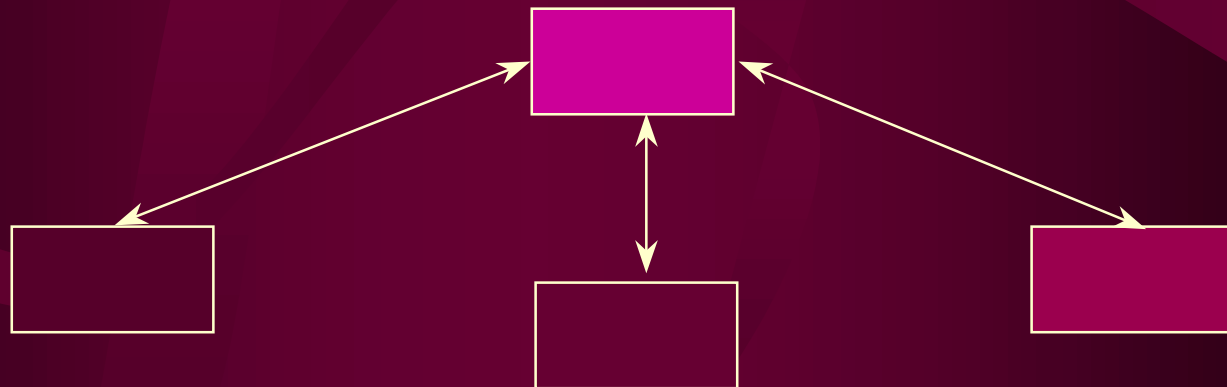


# Three Pillars of EDI



# I. Generic Format Standards

- American National Standards Institute
  - About 400 documents standardized
  - Many industries represented
  - Many financial transactions
- EDIFACT to eventually become world-wide EDI standard

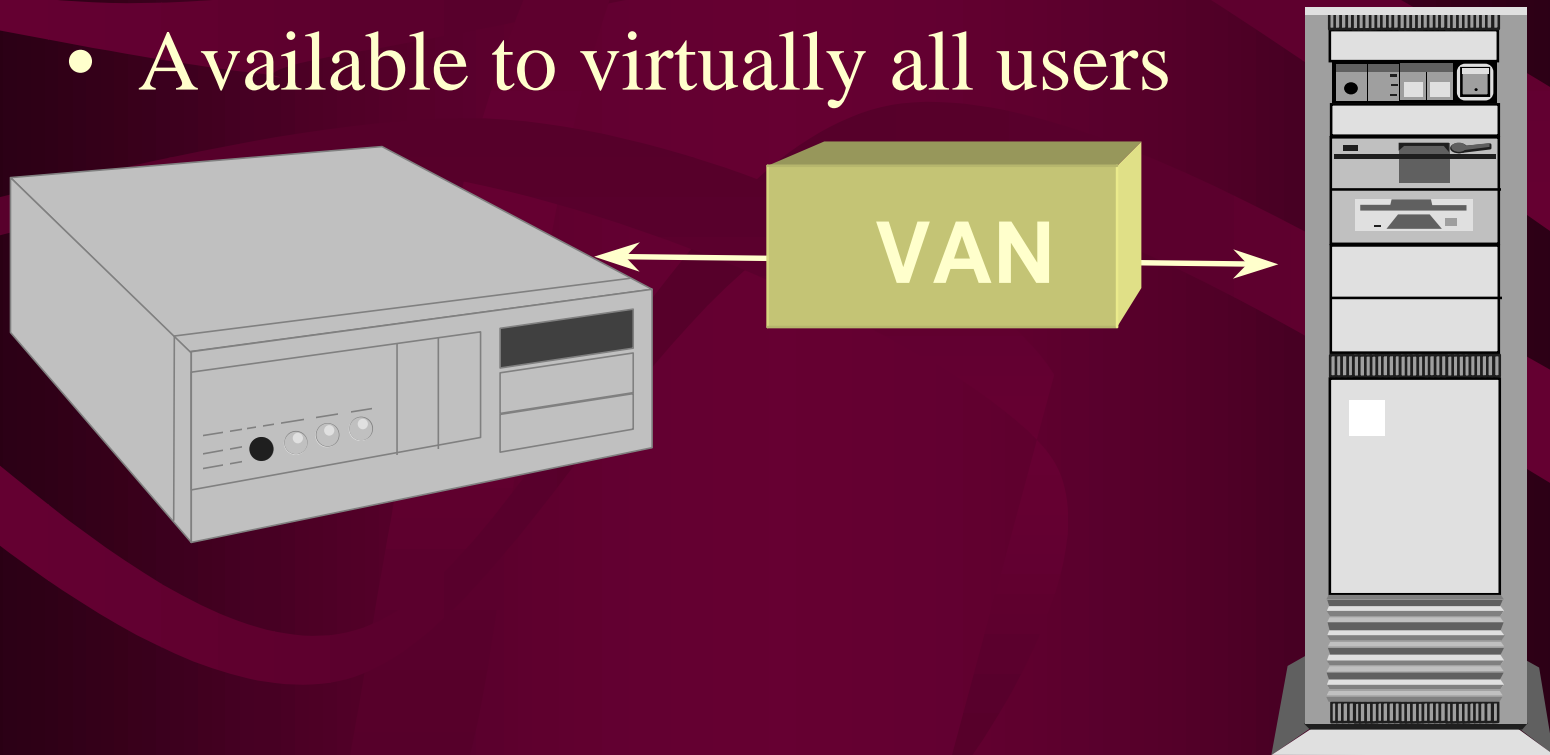


# Sample of ANSI X12 Transactions Related to Payments

- 810 Invoice
- 811 Consolidated Service Invoice (Telephone bill)
- 812 Credit/Debit Adjustment
- 813 Electronic Filing of Tax Return Data
- 820 Payment Order/Remittance Advice
- 821 Financial Information Reporting
- 822 Customer Account Analysis
- 823 Lockbox
- 824 Application Advice
- 826 Tax Information Reporting
- 827 Tax Return Notice
- 828 Debit Authorization
- 829 Payment Cancellation Request

## II. Value Added Networks

- Overcome communication barriers
- Cost per EDI document now \$.25
- Available to virtually all users

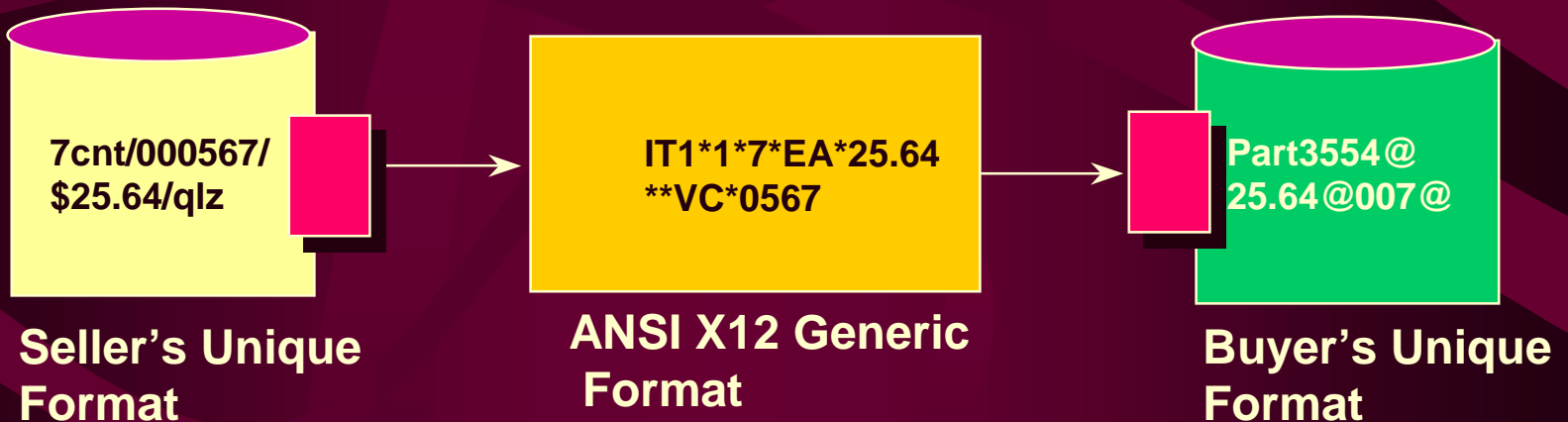


# Value Added Networks

- Commercial VANs
  - IBM (Advantis)
  - GEIS
  - AT&T
  - MCI Telecommunications
  - Ordernet
  - Kleinschmidt
- Internet

# III. Translation Software

- Unique data format to standard (and back)
- Off-the-shelf
- Low cost (\$300 and up)
- Seventy firms produce it



# Three Stages of Web Involvement

- Stage 1: “Brochure”
  - One-way information broadcast
  - Lowest cost, easiest to maintain
  - A holder for your place in e-commerce
- Stage 2: “Basic Transactions”
  - Offer basic transactions: orders, payment
  - Requires significant maintenance, real-time processing
  - May compete with existing business avenues

# Three Stages of Web Involvement

- Stage 3: “Complete Business Partnership”
  - Multiple transactions with customers
  - Integrated functionality
  - Builds customer loyalty, long-term relationships
  - Involves major funding commitments

# Three Stages of Web Involvement

**Stage 3**

**Cisco:**

Product Info.

Design

Orders

Status

Customer service

Delivery

Payment

**LandsEnd:**

Catalog

Orders

**Stage 2**

**Stage 1**

**WSJ:**

News

# Any Problems with Paper Checks?

The image shows a check with a blue box highlighting the front portion. The highlighted area contains the following text:

**BOB JONES** **2048**

DATE \_\_\_\_\_

PAY TO THE ORDER OF \_\_\_\_\_ \$

\_\_\_\_\_ DOLLARS

**FIRST NATIONAL BANK**

\_\_\_\_\_

⑆00 2100 66⑆ 770 ⑀ 964076⑀ 2121

# Problems

- Slow
- Labor intensive
- Error prone
- Uncertain
- Informationally deficient
- Excess balances
- Expensive

# What is Financial EDI?

FEDI is the use of computers and telecommunications to exchange business data **between a bank and its customers** in a structured format that does not require manual intervention.



# What kind of data is transmitted?

- Payment orders
- Remittance detail
- Account analysis
- Lockbox receipts
- Paid check detail
- Letter of credit information
- Stop payment

# Why is FEDI better than paper?

- Automated processing
- Control of payment timing
- Fraud control
- Cost effective (\$2.00 vs. \$0.50)
- Reconciliation
- Electronic account application
- Lower error rates
- Acknowledgments

<b>BOB JONES</b>	<b>2048</b>
	DATE _____
PAY TO THE ORDER OF _____	\$ _____
	DOLLARS
<b>FIRST NATIONAL BANK</b>	
_____	_____
⑆00 2100 661⑆ ● ⑈ 36 ● 76⑈ 2121	

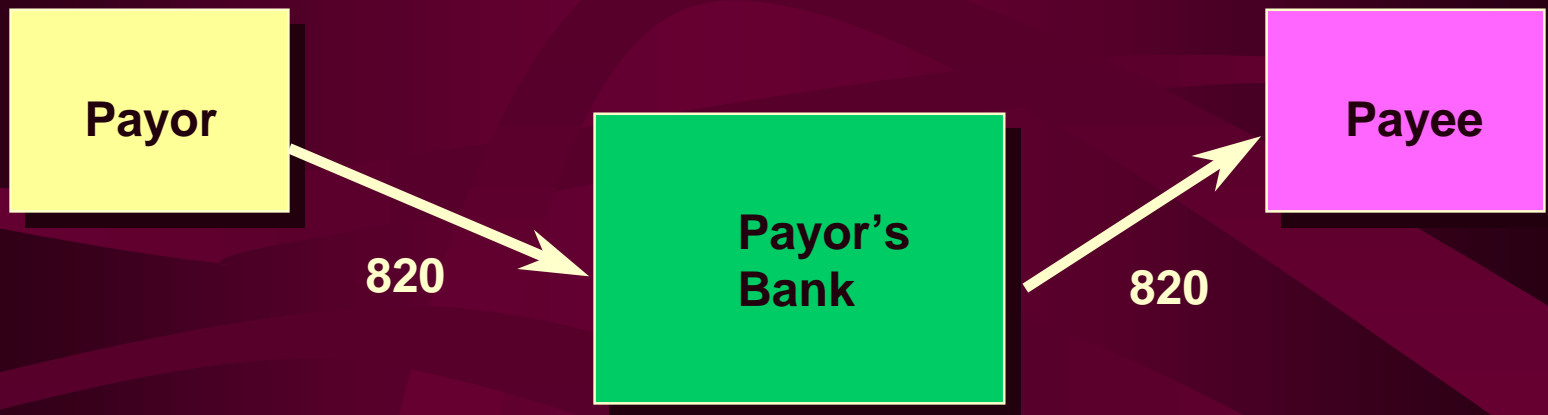
# TYPES OF EFT SYSTEMS IN NORTH AMERICA

- Real time systems
  - FedWire
  - CHIPS
  - SWIFT
- Batch systems
  - Automated Clearing House (ACH)
  - Canadian EDI System

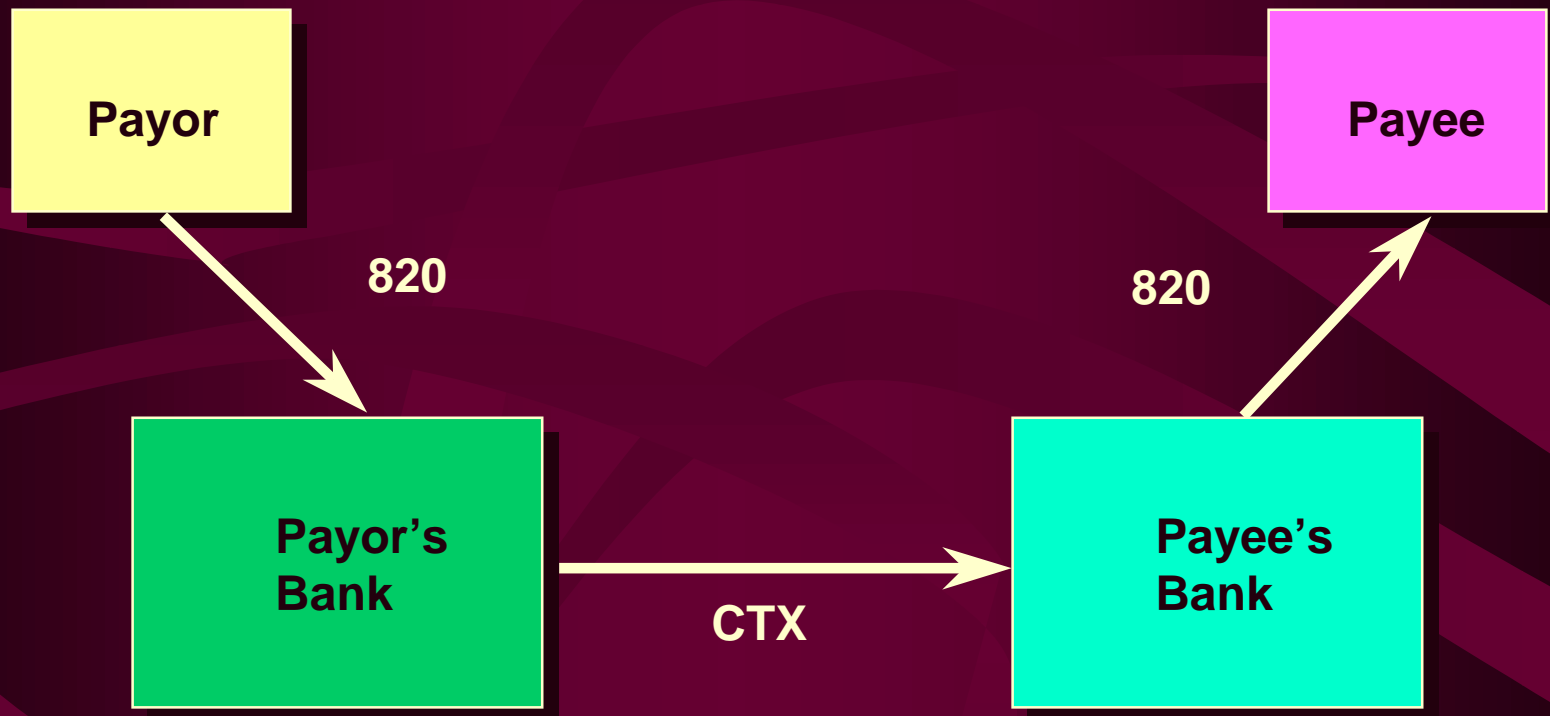
# Why is FEDDI superior to conventional EFT?

- Remittance information goes with payment
- Electronic acknowledgments
- Less manual processing
- Completes EDI cycle

# FEDI Payments 1:



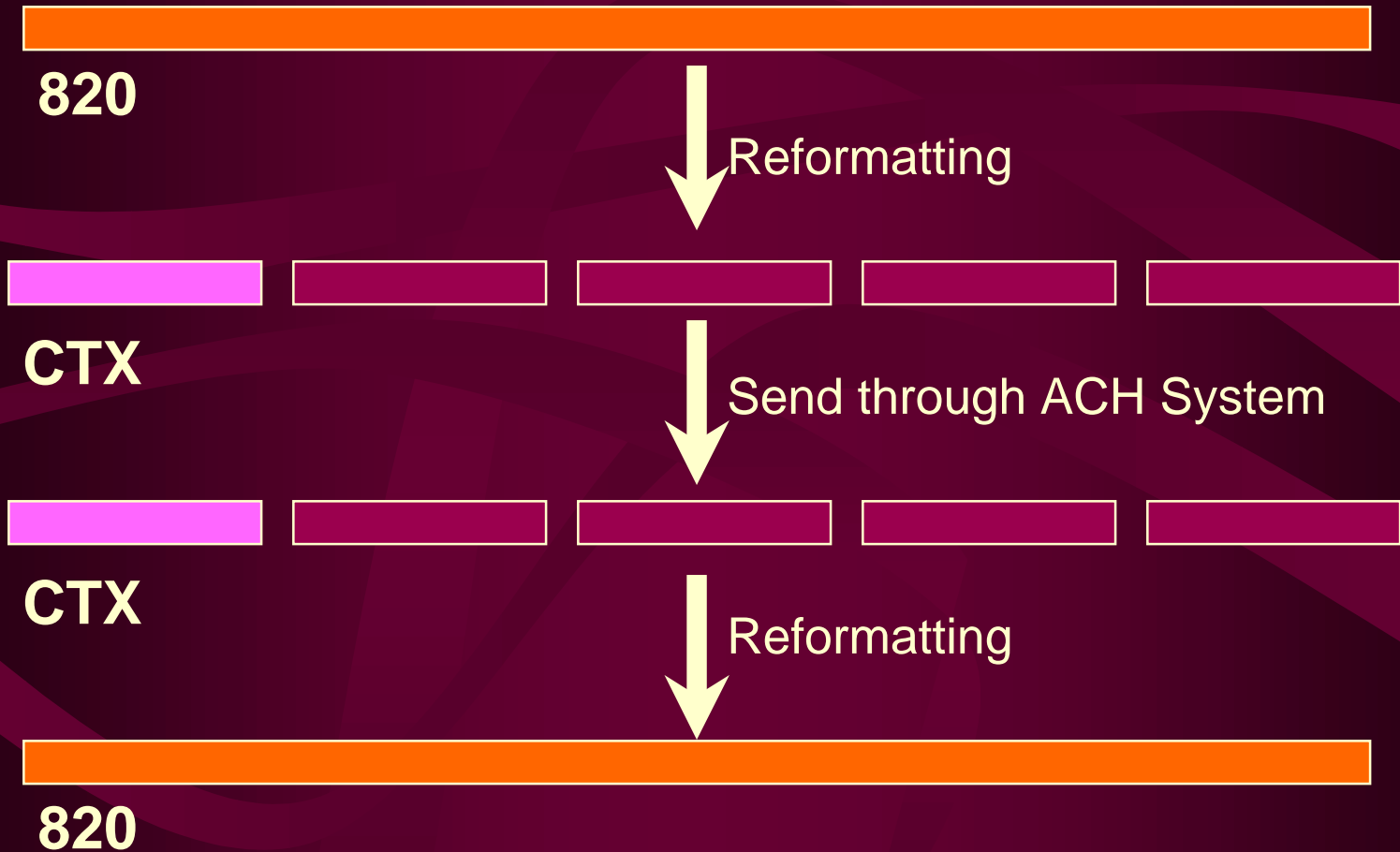
# FEDI Payments 2:



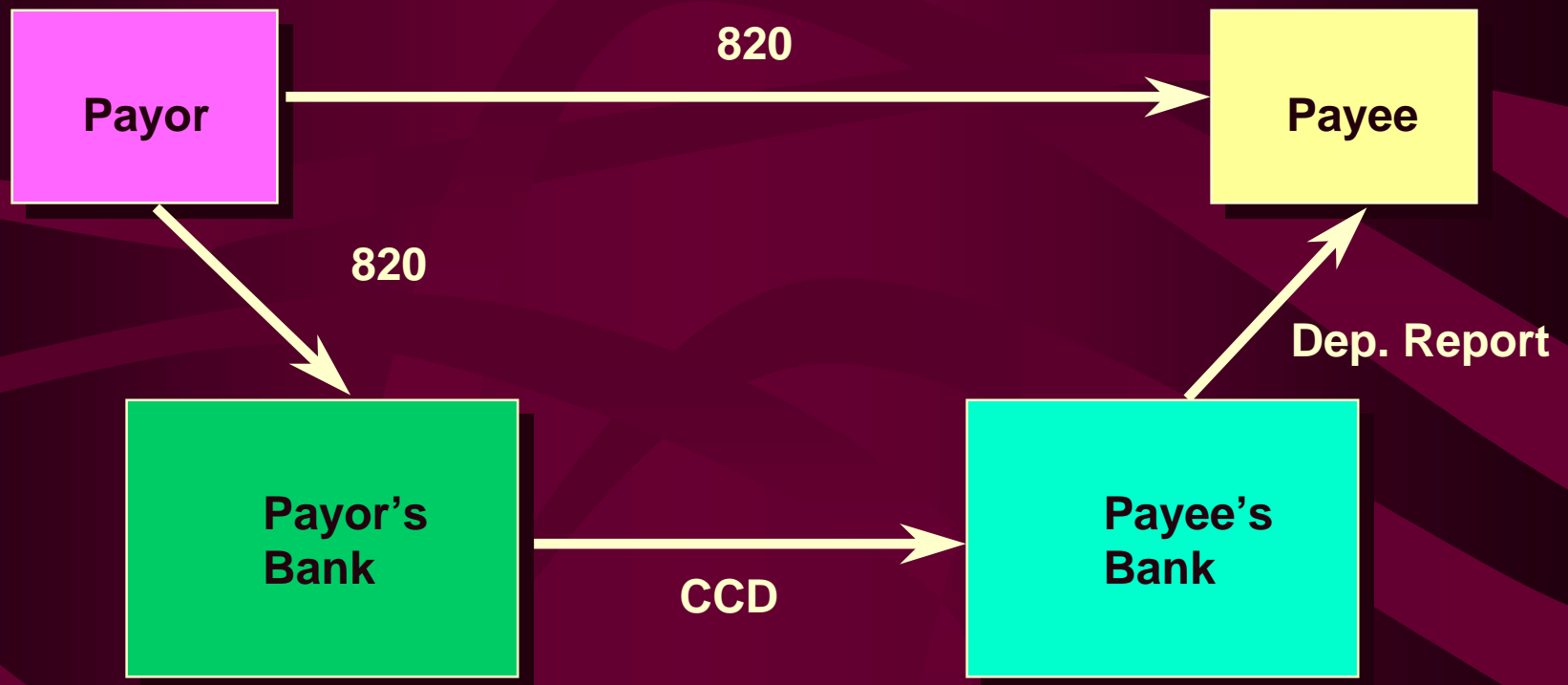
# What is a CTX?

- Most ACH transactions are one record:
  - 94 characters
  - check-like information
  - PPD, CCD, CIE, etc.
- Enter CTP (CCD + up to 4,990 addenda)
- Finally CTX (CCD + addenda that can be converted into an 820)

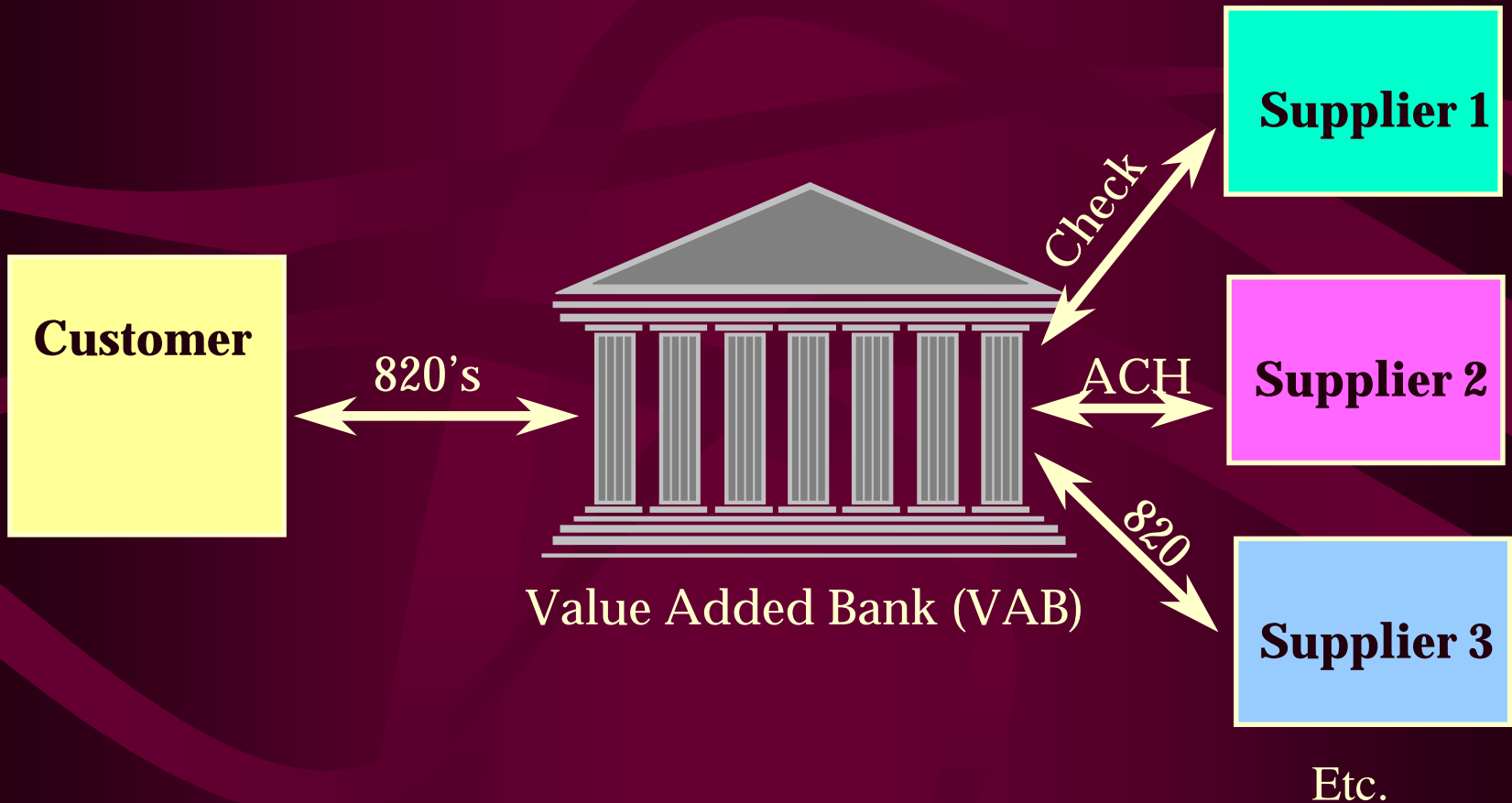
# CTX's and 820's



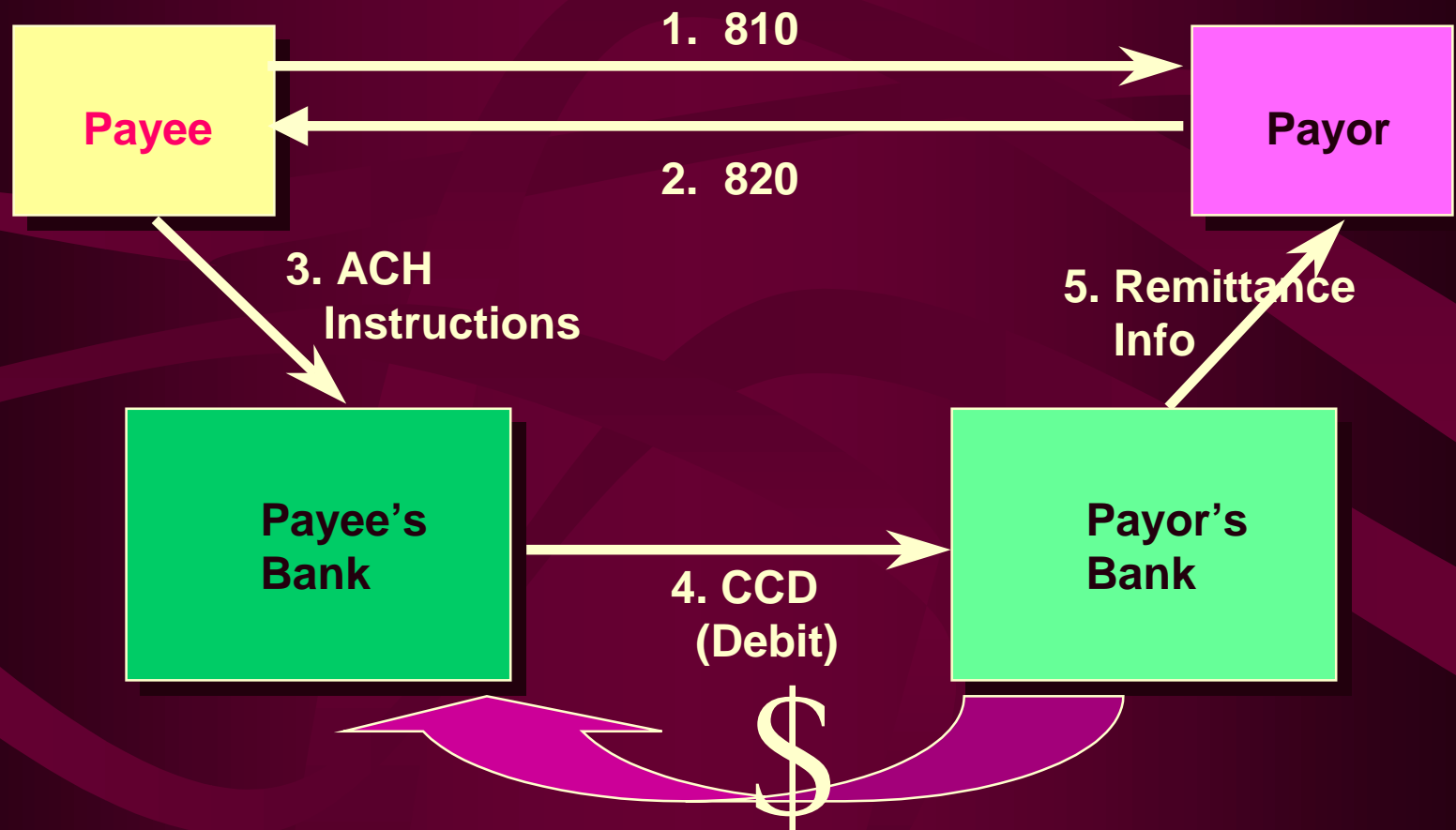
# FEDI Payments 3:



# FEDI Payments 4: EDI-Enabled Outsourcing of Payables



# FEDI Payments 5: (Debit)



# Barriers to EDI

- Lack of trading partners
- Initial investment
- Inertia in current systems, processes
- People
- Security
- Float issues

# CONCLUSIONS

- Prepare your firm for the trends
  - EDI and other EC
  - Internet
  - Home computers (now 50%)
- Be prepared for customer demand
  - Slow but building speed
  - EDI will be required in many relationships
- The infrastructure is well in place
- You will be doing EDI/FEDI sooner or later
  - might as well plunge in now!