



Electronic Commerce

Implementation



Topics

- Key Issues
- Insourcing Vs Outsourcing
- Internet Service Providers
- Development Shops
- Designing Web Pages
- Front-ends, back-ends and middleware

Key Issues

- The Internet
- Security
- Types of E-Commerce
 - Business-to-Business
 - Business-to-Consumer
- CPR - Customer Process Re-engineering



The Internet

- Networks and Technologies
- History
- Ownership

Network Layers:

High Speed Backbone

ATT - - MCI

Network Access Points

Sprint - - PacBell

Regional Networks

UUNet - - PSI Net

Local ISPs

RMI - - CSD

User Organizations

DU - - JM

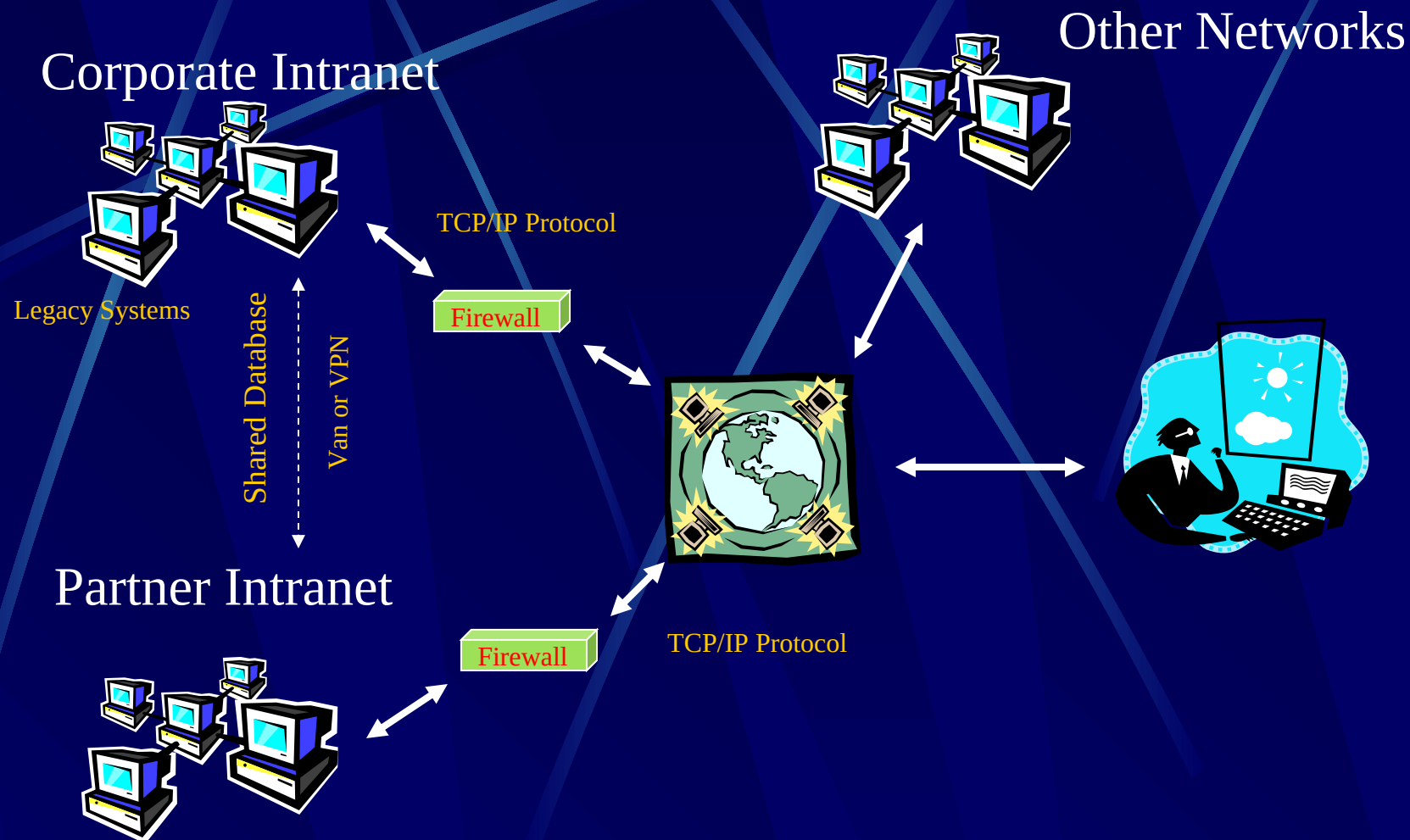
Points of Presence (POP)



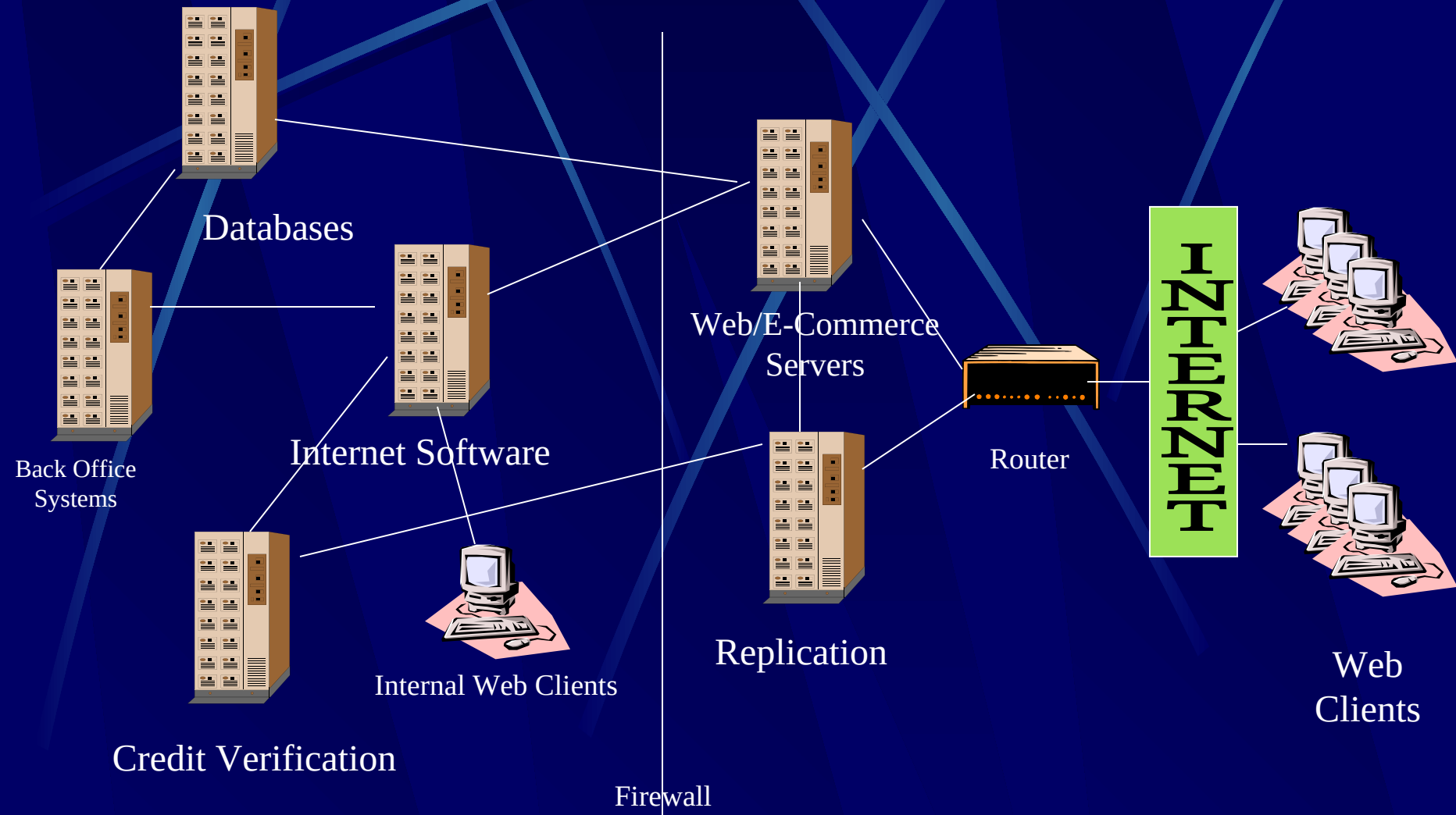
Logical/Protocol Layers

Data to Partners or Consumer	FTP, HTTP,SMTP, DNS, POP, IMAP, MIME
Finding the other computers	TCP, UCP
Network Routing	IP
Linking to Machines	Ethernet, PPP, FDDI
Physical Connection	Twisted Pair, Coaxial, Fiber Optics, Microwave, Satellite

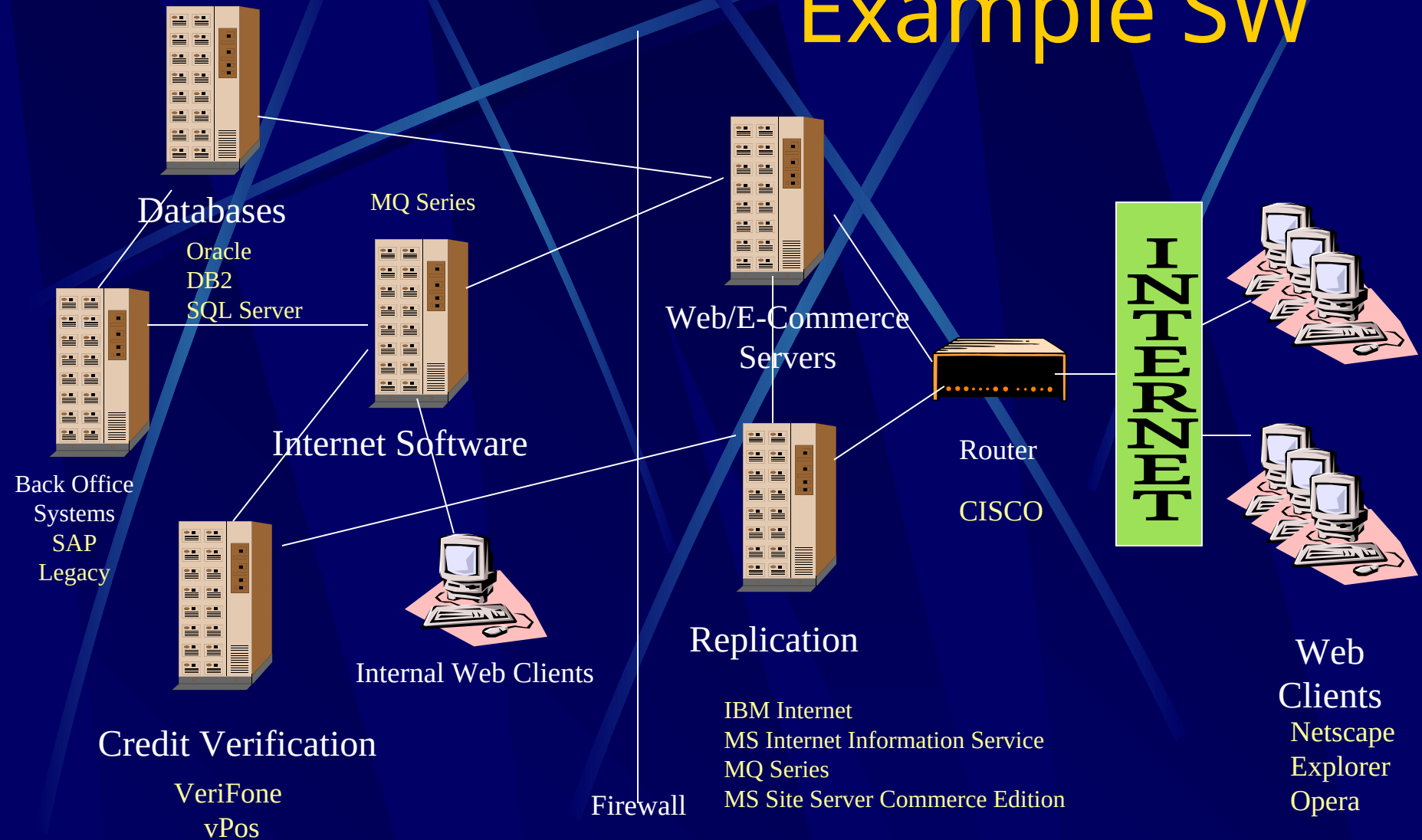
Networks



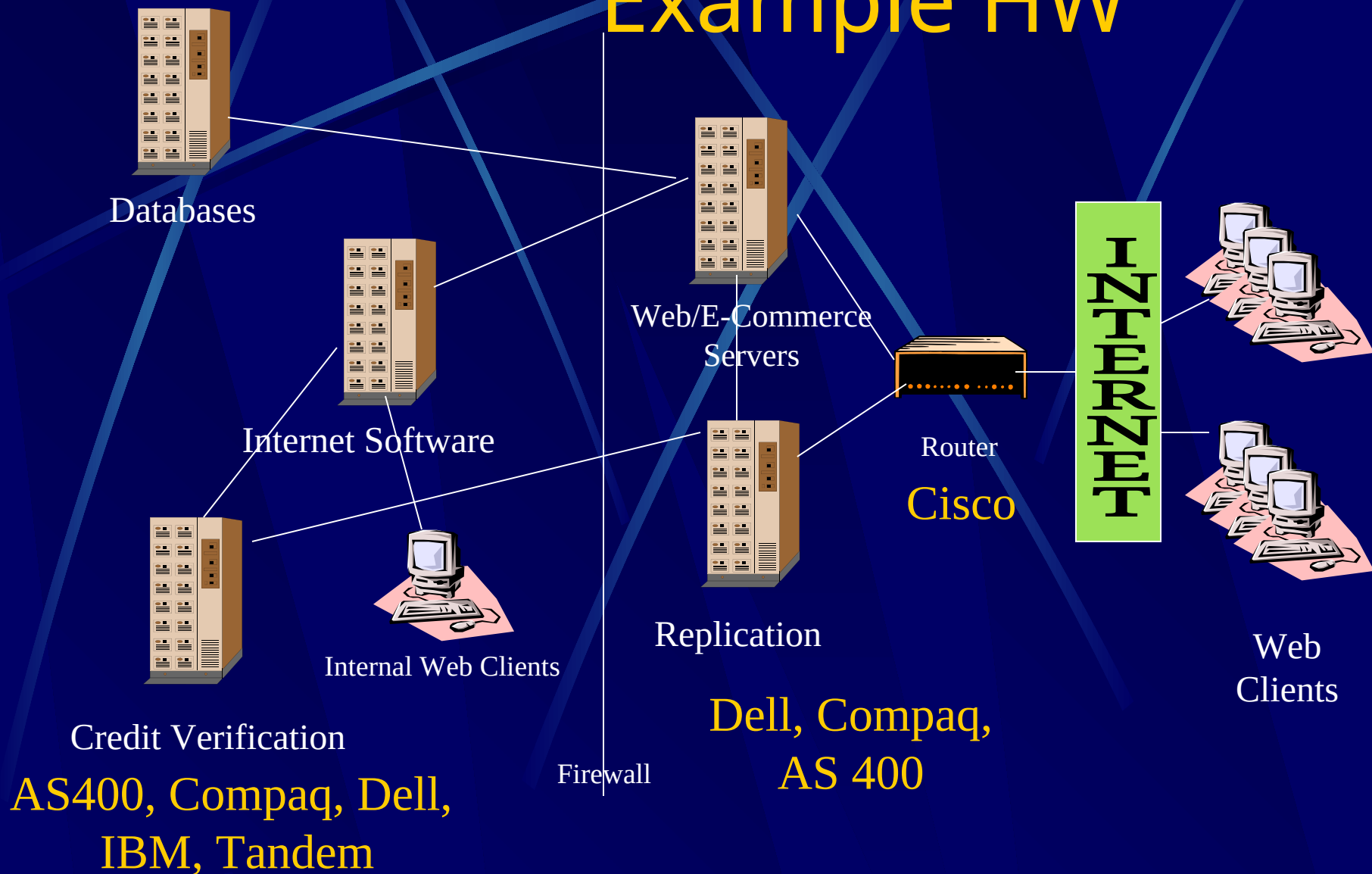
E-Commerce Architecture



Example SW



Example HW

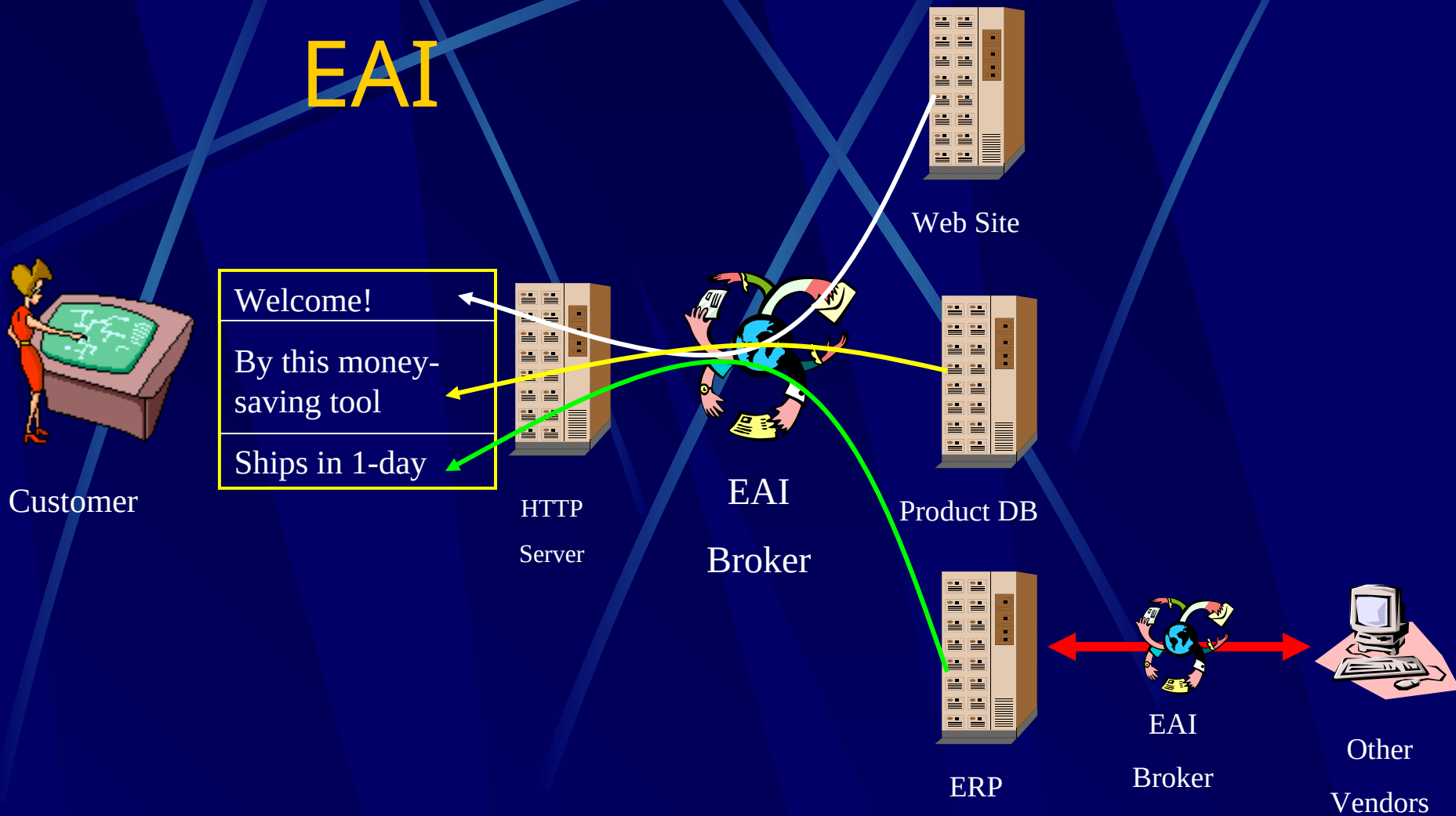


EAI

(Enterprise Application Integration)

- E-Business applications complex and disparate
- Most vendors settle on suite of technologies and standards:
 - XML – Data Exchange
 - JavaBeans – Server Architecture
 - CORBA, DCOM – Methods for calling processes
 - MQ Series or MSMQ - Message Queuing
 - DB2, Oracle, SQL Server, BAAN, One World, SAP

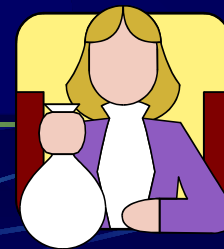
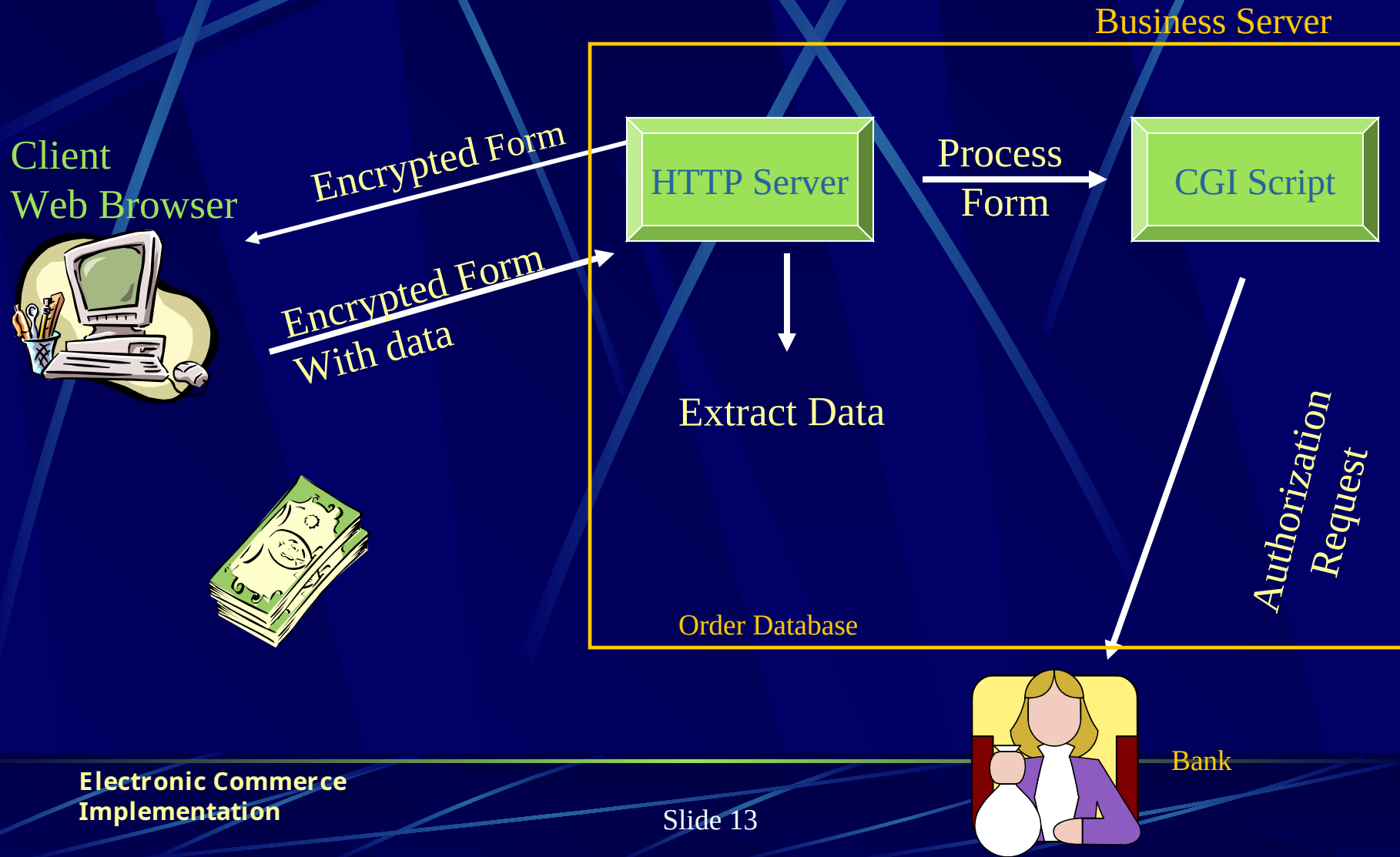
EAI



EAI Tools

- Bridges for Islands
- Mercator Software
- XML
- SOAP
- Saga Software
- Enterprise JavaBeans

Security



Digital Cash

- String of numbers
- Bank issues token for amount
- Bank validated
- Transferred to consumer's pc or account
- Bank validates token use
- Can be used for micro transactions



Types of E-Commerce

- Business-to-Business

- Business-to-Consumer



CPR

- Knowing your customer
- Providing needed information
- Making online interaction easy:
 - Navigating
 - Ordering
 - Paying
 - Fulfillment
 - Service and support

Picking an ISP

● Large

- Be your own ISP
- Use local service
 - US West
 - Quest
 - Etc
- Build your own EC servers

● Small

- Use a Van
- Choose needed level of service
- Ramp over time

Internet Service Providers (ISP)

Large Business

Small Business

OWN

OUTSOURCE

Heavy Use

Light Use

Sample ISPs

- Rocky Mountain Internet
- Compuserve
- Mindspring
- Host Works

Other Web Real Estate

- On-Line Web Host and Design Kits
 - Yahoo
 - GeoCities
- America On-line
- Quicksite
- Web Promotion
- An on-line Mall – Downtown Anywhere

Free Store Fronts

(Or at least cheap...)

- BigStep
- ECongo
- Vstore
- FreeMerchant
- StoreSense
- Yahoo! Store



Let's build one...

General Features

- Possible Freebies:
 - Web Page Editor
 - Multiple logins
 - FTP Software
 - URL / Domain assistance
 - Web back-ends
 - Front-page
 - CGI
 - Database Management
 - Shopping Carts

- Ask about
 - Types of connections
 - How many dial-ups
 - Access range
 - Tech support/hours
 - Hosting costs
 - Development costs
 - Statistics/Tracking
 - Backup
 - Site Promotion
 - File transfer limits
 - Audio-video/Voice
 - Dynamic Pages Back-end

Requirements Analysis

WHAT DO YOU NEED TO PLAY?

Organization

Small

Large

New

Commerce
Processes

Existing

Everything must
Be Internet
Based

Internalize EDI
Processes
New Customer
Processes

Coordinate EC
With stand-alone
software

Re-engineering of
EC process to
Match EC Domain

The Basics of Building a Web Page



What is HTML?

Putting the Pieces Together



Example File

Putting in Graphics

Design Tools

- Editors:
 - Word
 - Netscape Composer
 - Front Page
 - DreamWeaver
 - Net Object Fusion



Power
And
Complexity

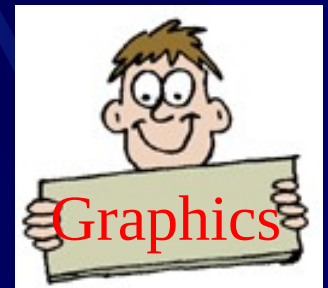
Design Criteria

- Keep it simple
- Keep it fast
- Keep it short
- Keep it cheap
- Avoid mistakes



Design Criteria

- Use a commonly available font
- Use color to convey messages
 - UPS
 - Hot Sauce Shop
- Stick with browser-safe colors
- Use graphics



What Goes There?

- Get it out in the open
- Encourage them to click
- Tell Them about yourself
- Keep it on a page – if possible
- Use Headings
- Make Lists
- Lead with links
- You can even translate it!

Some Other Ideas

From Research

- Concise – no scrolling
- Scannable – inverted pyramid
- Objective – not promotional
- Users like to search
- Well-done sites add to credibility
- Know your audience – be careful with humor

Morkes and Nielsen

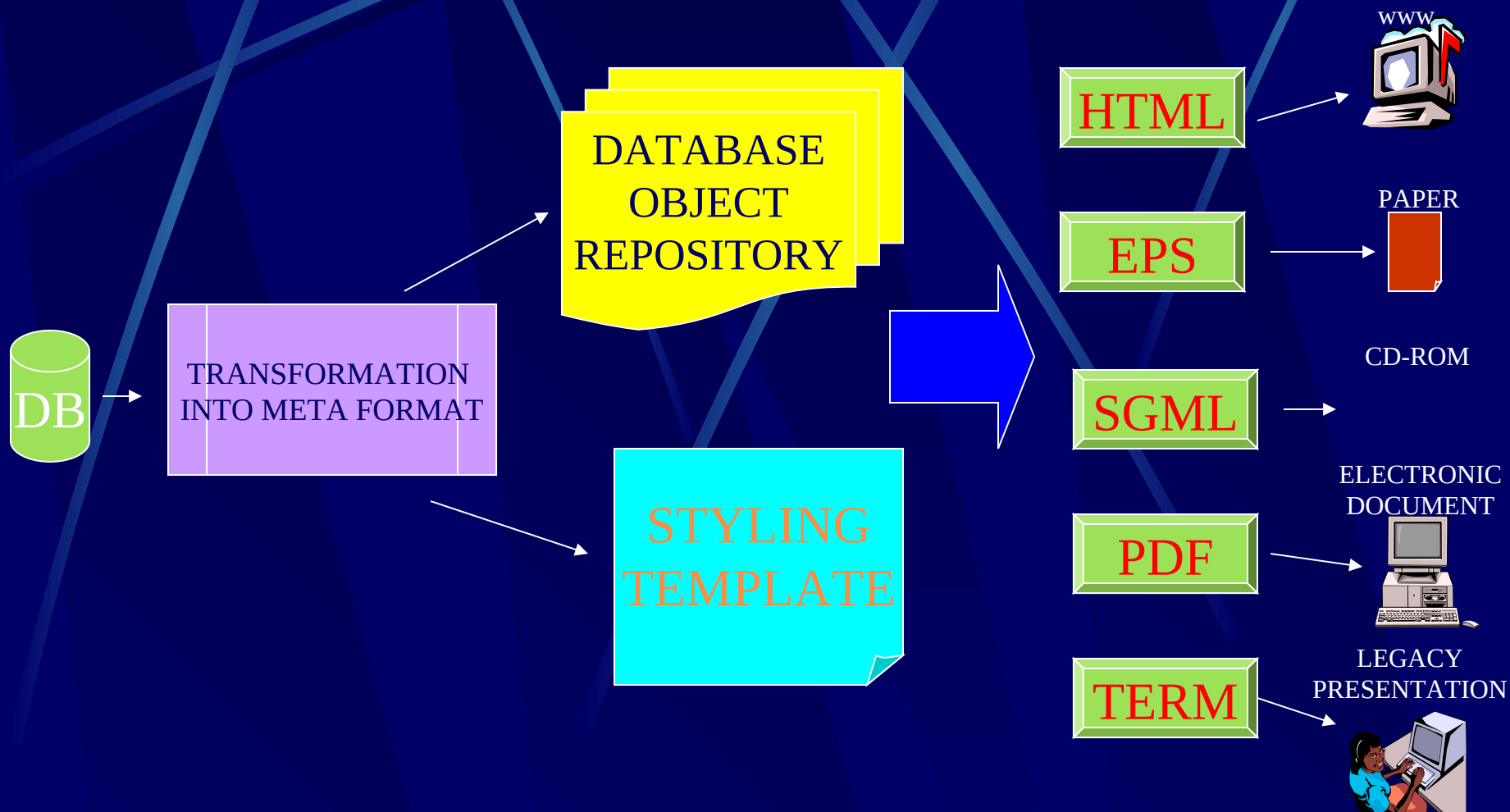
What Goes There?

- Speed of Web front-end processes will push the re-engineering of back-end processes
- For better or worse, things are done differently on the net
- Use pilot projects to lead the way

What Goes There?

- One of the biggest problems is scaling
 - Hand-coded HTML works fine on the early sites
 - Automated code is needed for large systems
- The trend is towards transactional commerce
 - Databases
 - Object oriented
- Customer profiles should drive service

What Goes There?



Databases

Collecting Information

- ACCESS
- SQL
- Oracle
- Data Mining Software

WHICH TOOL TO USE?

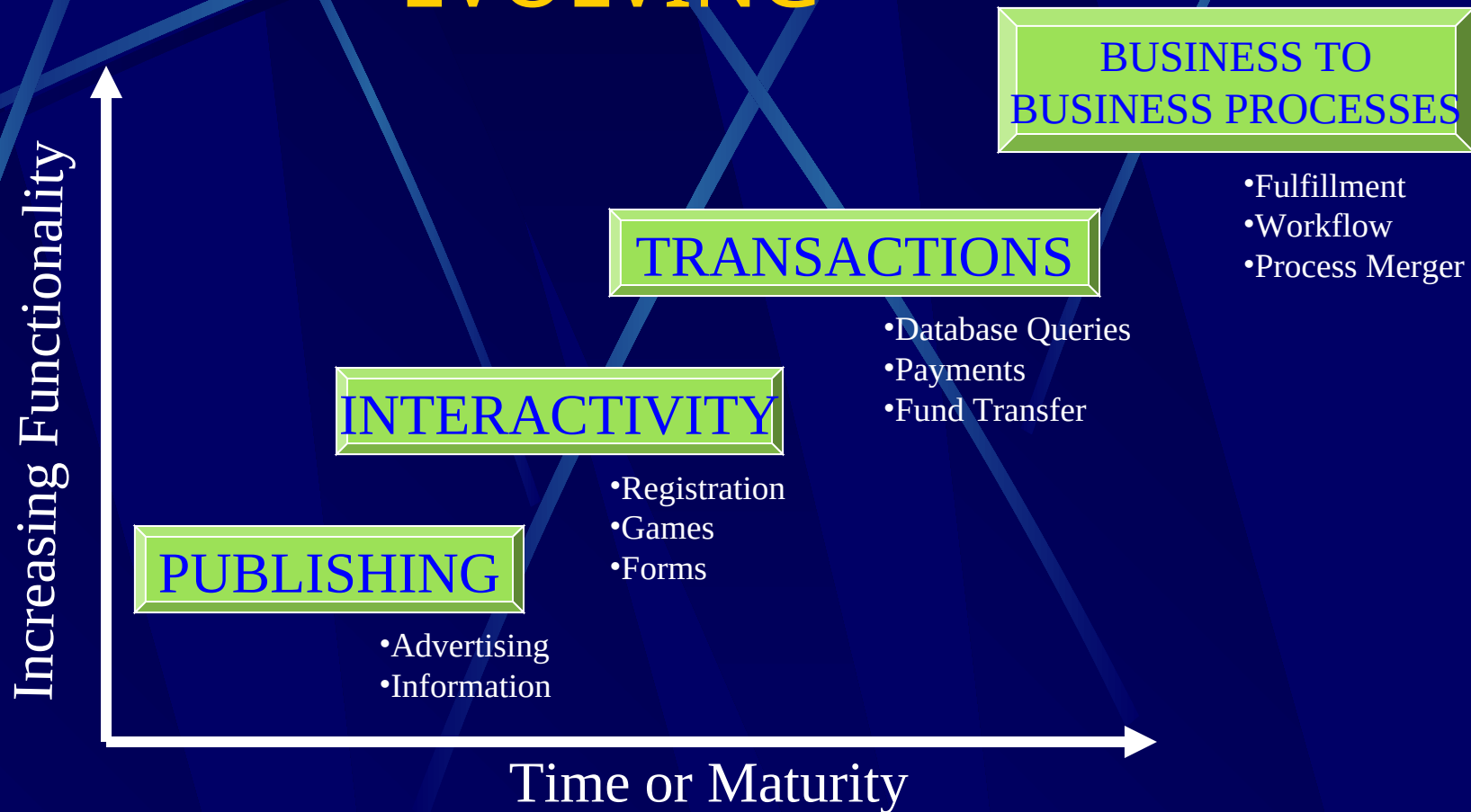
Getting Publicity

- Check out popular sites
- Find out how search engines work
- List yourself on Yahoo and others.

MANAGING THE TECHNOLOGY

- Create proprietary solutions when needed, but ditch them when needed
- Automate with workflow software to manage increased customer services
- Sites should include dynamic data and support large transaction flow

EVOLVING



Developers

- [Starwave](#)
- [Halstead](#)
- [I-frontiers](#)
- [Channel Seven](#)
- [Digital Spinner](#)
- [Eye Magic](#)
- [Internet Solutions](#)
- [Pop Multimedia](#)
- [Ucompass](#)
- [USWeb/CKS](#)
- [QuinnCom](#)
- [Visicom Media Inc](#)
- [Devine Services](#)



Some EC Tools

- Website Garage by Netscape
- Business Plans On-Line
- Advertising on the Web
- Other Resources
- A ton more

Plan your Website

What will be the first thing customers see?
What navigation controls will you use?
What kind of clicks will be available?
Will you offer any freebies?