Host Integration:
Learn IBM Web-to-Host Strengths

AGENDA

- ◆ Seminar Objectives
- ◆ What is Transformation & Integration
- ◆ Market Overview/Segmentation
- ◆ Host Integration Solution Strategies
- ◆ Host Integration Scenarios/Integration with Websphere
- ◆ Competitive Advantages
- ◆ Host Integration Demo
- ◆ Summary

SEMINAR OBJECTIVES

◆ By the end of today's seminar you should know:

- ◆ how Host Integration solution fits within the Business Transformation & Integration segment
- ◆ what Host Integration is and how it can work for you and your customers
- ◆ how Host Integration and Websphere can create a continuous platform for ebusiness
- ◆ have a knowledge of Websphere Transcoding Publisher and how it works with Host Integration
- ◆ realize the power of Host Integration via a demo from the web
- ◆ understand the competitive advantages of Host Integration

Transformation and Integration: an Explosive Growth Area for IBM and Business Partners

Business Transformation & Integration
## ... IBM Has Made Customers Successful Worldwide
4,000 partners and growing

What is Transformation & Integration?

- Driven by the need to *change at will* in the e-business age
  - ► Integration of processes, applications, data
  - ► Extending internal operations to suppliers, distrib-utors, and customers to create new business models
- Business demands that companies be:
  - ► *Fast*—implementing change easily and smoothly
  - ► *Flexible*—adapting continuously
  - ► *Fearless*—conducting secure e-business anytime
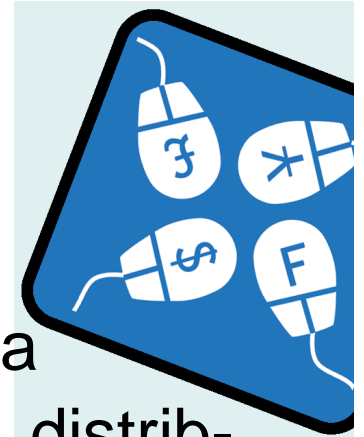
How BIG is Transformation & Integration?

- ■ **Total Software Opportunity:**
  - ► $59B US in 1999
  - ► Growing to $83B US by 2002
- ■ Every dollar spent in software yields ten in services
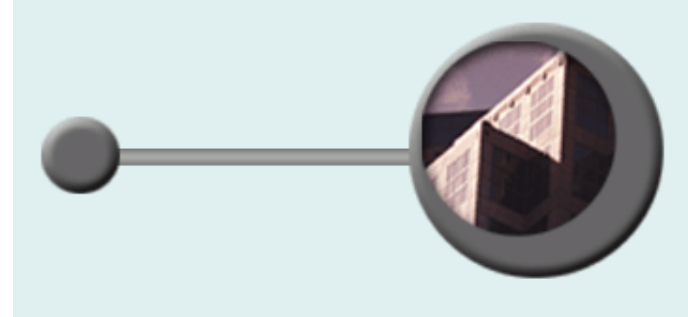- ■ Key Growth Area: Distributed Solutions
  - ► 19% CGR

What to Sell: Web to Host

- **Customer needs:**
  Simple Web access
  to host systems

- **Middleware:**
  IBM Host Integration
  (Host On-Demand, Host Publisher, Sceen
  Customizer,Websphere Transcoding Publisher)

Market Overview
Our Business Mission

- **Our combined Host Integration and Websphere mission:**
  - ✓ To develop and bring to market enterprise-class solutions which allow employees, partners, suppliers and customers to access applications and data to enable e-business
  - ✓ To help customers automate, integrate, and transform their information, applications, and business processes for e-business
  - ✓ To extend the reach of existing data and applications to growth markets, including emerging, pervasive clients

Host Integration:

Market Segmentation within Business Transformation & Integration

Market Overview
Market Segmentation and Buyers

2000 GMV Targeted Opportunity:
CS/390 $969M, Host Integration Workstation $1,733M, WebSphere $1,524M

	Traditional	Efficiency Conscious	New Frontiers	Network Outsourcers	e-Line
Large	Large complex, global networks. Total cost key.	Large enterprises looking to improve efficiency, business model through web. Manufacturing, utilities, distribution, government industries.	Large enterprises redefining business model because of e-business. Industries - BF&S, healthcare, retail	Telcos - facing the need to improve efficiency and deliver new productcategories	
Small/ Medium	Includes divisions of large companies Software decisions linked to appls Simplicity, end to end solutions key	Medium enterprises looking to improve efficiency and connect to partners Manufacturing, utilities, distribution, government industries	Medium enterprises seeking web functionality to keep up Industries - BF&S, healthcare, retail	ASPs, ISPs - Attempting to manage large numbers of users in a rapid growth environment	Attempting to deliver functionality to customers through the web Focus on transactional e-business

Business Connect to
Business Transformation Sweet Spot

Business Connect

Business Transform

Large Traditional Host Access	Large Efficiency Conscious	Large New Frontiers	Telcos	
Medium Traditional Host Access	Medium Efficiency Conscious	Medium New Frontiers	ASPs, ISPs	Medium e-Line

Connect to Transform Continuum

Quickest way to web-enable host applications. Little or no new business logic needed.

New business logic developed. Server-side, new web applications

Solution Strategy
Product to Segment Map

Large Traditional Host Access	Large Efficiency Conscious	Large New Frontiers	Telcos	
• PCOMM • CS/OS2 • CS/NT • CS/AIX • NetWare for SAA	• HOD • Screen Customizer • Host Pub • WebSphere Standard • CS/NT, CS/AIX	• Host Pub • Content Magic • WebSphere Enterprise • WebSphere Advanced • WebSphere Studio	• Host Pub • Content Magic • WebSphere Enterprise • WebSphere Studio • WebSphere Performance	
Medium Traditional Host Access	Medium Efficiency Conscious	Medium New Frontiers	ASP, ISP	Medium e-Line
• PCOMM • CA/400 • CS/NT • CS/AIX • NetWare for SAA	• HOD • Screen Customizer • Host Pub • WebSphere Standard • CS/NT, CS/AIX	• Host Pub • Content Magic • WebSphere Advanced • WebSphere Studio	• Host Pub • Content Magic • WebSphere Enterprise • WebSphere Studio • WebSphere Performance	• Content Magic • WebSphere Enterprise • WebSphere Studio • WebSphere Performance

Connect to Transform Continuum

Solution Strategy
Point Product Offerings

e-business

IBM

- ✓ **Personal Communications** professional emulation
- ✓ **Host On-Demand** Java emulator installed on a server and accessed from a Web Browser
- ✓ **Screen Customizer** for existing application rejuvenation to a dynamic graphics interface
- ✓ **Host Publisher** for existing application integration from multiple sources to an HTML Web graphics interface
- ✓ **Content Magic** Provides access to web and host information from pervasive devices.
- ✓ **Communication Servers for OS/390, AIX, OS/2, Windows NT, NetWare and UnixWare** SNA Gateways, TN3270E and TN5250 servers, security and support, optional carriers for Host Publisher

- ✓ **WebSphere Standard Edition** entry level web application server for server-side Java-based applications
- ✓ **WebSphere Advanced Edition** adds Enterprise JavaBean support and performance for department level application serving
- ✓ **WebSphere Enterprise Edition** adds support for high-volume, high-performance transactions
- ✓ **WebSphere Studio** complete tool set for collaborative development of web sites
- ✓ **WebSphere Performance Pack** provides improved availability, scalability, and performance for coporate and ISP web deployment
- ✓ **VisualAge for Java** application development tools and support Java applications

Solution Strategy
Host Integration Solution Offerings

for 'large' customer segments ...

Host Integration Solution

- ✓ **Communication Servers for AIX, OS/2, Windows NT, NetWare**
- ✓ **Personal Communications**
- ✓ **Host On-Demand**
- ✓ **Screen Customizer**
- ✓ **Host Publisher (with Websphere)**
- ✓ **Websphere Transcoding Publisher**
- ✓ **Services**
- ✓ **IBM Firewall**

- ✓

for 'large traditional' customers in transition to 'web to host' ...

Host Access Solution

- ✓ **Personal Communications**
- ✓ **Host On-Demand**

for 'small/medium web to host' efficiency conscious customers ...

Small/Medium Business Solution

Screen Customizer

Host on Demand

Host Publlisher

When your customer...

- ...has large investments in mainframe applications and uses host terminals to access data
- ...needs immediate WEB access to host data
- ...wants to extend access for new users to their existing applications over the WEB
- ...plans to build new WebSphere e-business applications that will require host access
- ...wants to integrate existing applications into composite WEB-based applications

Describe the Solution Vision, Lead with Host Integration Messages:

- ✓ a fast and cost-efficient start to e-business
- ✓ a new look and feel to existing applications
- ✓ you can reuse Host Integration components to build new WebSphere applications

When your customers...

- ...are changing their business model -- replacing bricks and mortar with clicks and mortar
- ...are re-engineering their applications and business processes to become e-businesses.
- ...have e-business imperatives--arising from opportunity or competitive pressure--call for innovation and relentless growth
- ...are building long-term core infrastructure (WEB, pervasive computing, personalization) and skills (Java XML, component programming) as an organizational objective

Describe the Solution Vision, Lead with WebSphere Messages:

- ✓ an industrial strength platform for e-business
- ✓ transform WEB content and human resource intensive processes into fast, dynamic WEB applications
- ✓ transform business services and processes into high-productivity WEB applications

Scenario 1:
WEB access to existing applications

- **WEB access to existing applications with an optional new look and feel for employees and business partners (intranet and extranet)**

- Transform host applications into new composite WEB applications for employees, business partners and customers (intranet, extranet and Internet)

- Deliver business applications to any type of computing device from WEB browsers to cell phones

Step 1: Enable WEB access for existing users
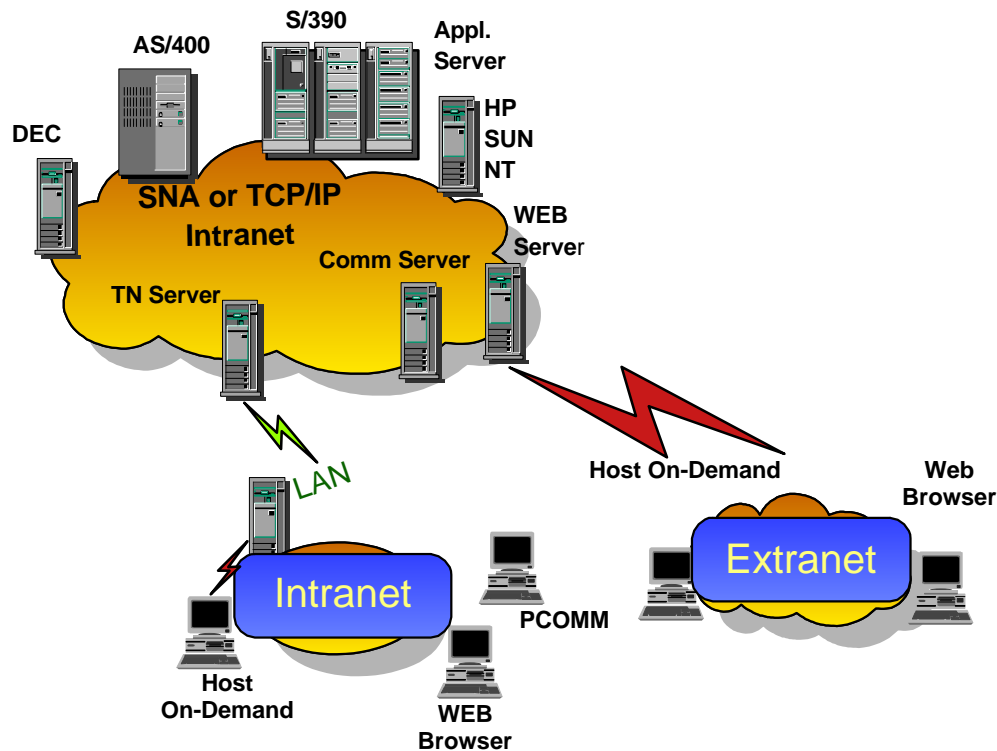
IBM Host ON-Demand extends the reach of your enterprise's mission-critical information
► Green screen access from a browser window
► TN3270,TN5250 , and VT 52/100/220 emulation support
IBM Screen Customizer rejuvenates the look and feel of your green screen application, whether the emulator is Host On Demand or Personal Communications.
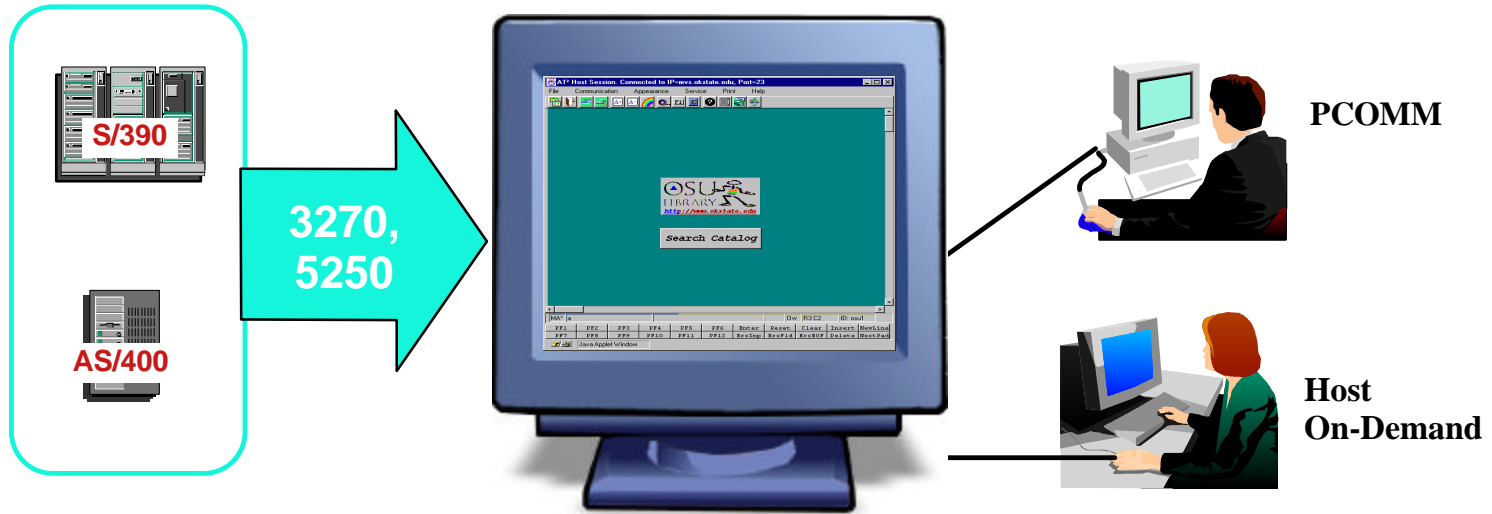
IBM Host On-Demand V4.0

S/390

AS/400

DEC/UNIX

3270, 5250, VT

Java Browser
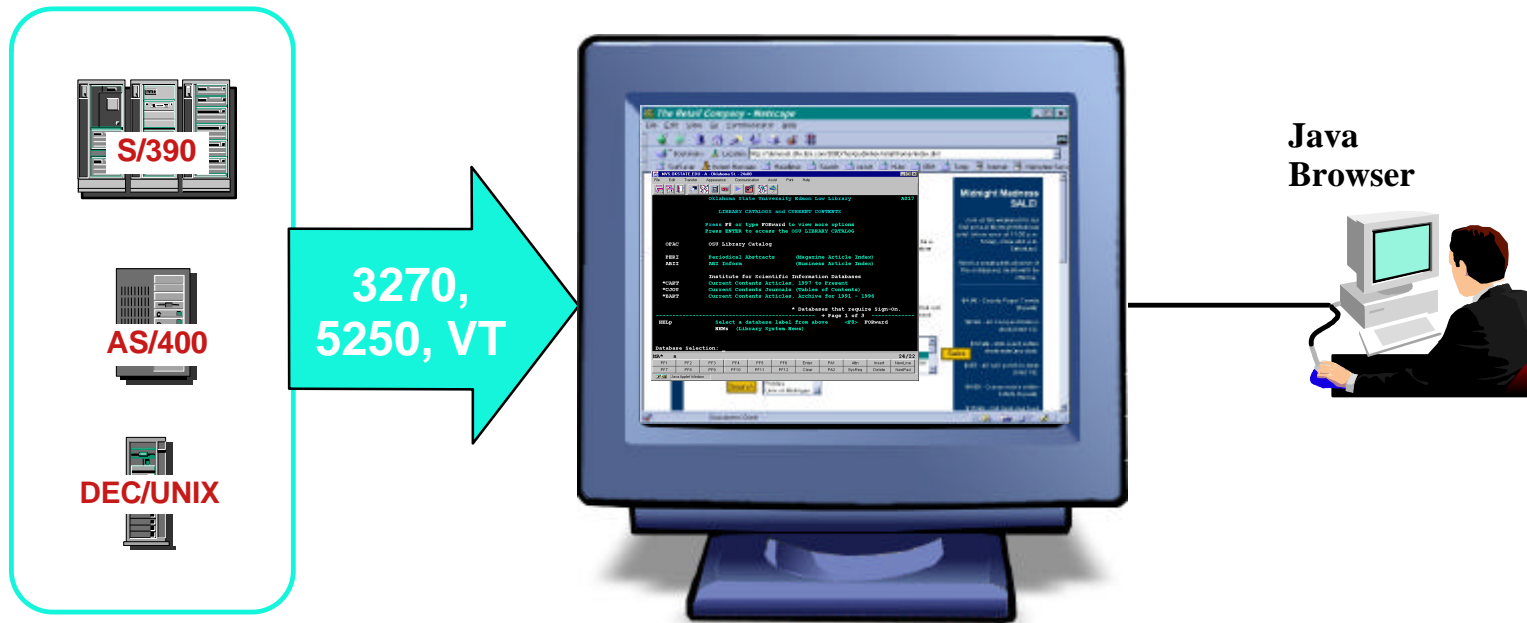
WEB-to-Host Terminal Emulation Solution

- **Extends host application reach to new users**
- **Reduces I/T costs through centralized install and administration**
- **Supports platforms of choice (S/390, AS/400, NT, AIX, Solaris, Linux, HP, OS/2 as servers; Internet Explorer or Netscape browser as clients)**
- **Requires no middle-tier runtime server**
- **Enables rapid host integration in new e-business applications**

e-business

IBM

IBM Screen Customizer V1

S/390

AS/400

3270, 5250

PCOMM

Host On-Demand

Host Application Rejuvenation

- Creates custom graphical front ends without any programming
- Supports Host On-Demand, Personal Communications,and Client Access/400 (SNA and TCP/IP)
- Provides ability to share customized screens across clients
- Supports client and server platforms of choice
- Includes runtime component and Screen Customizer component
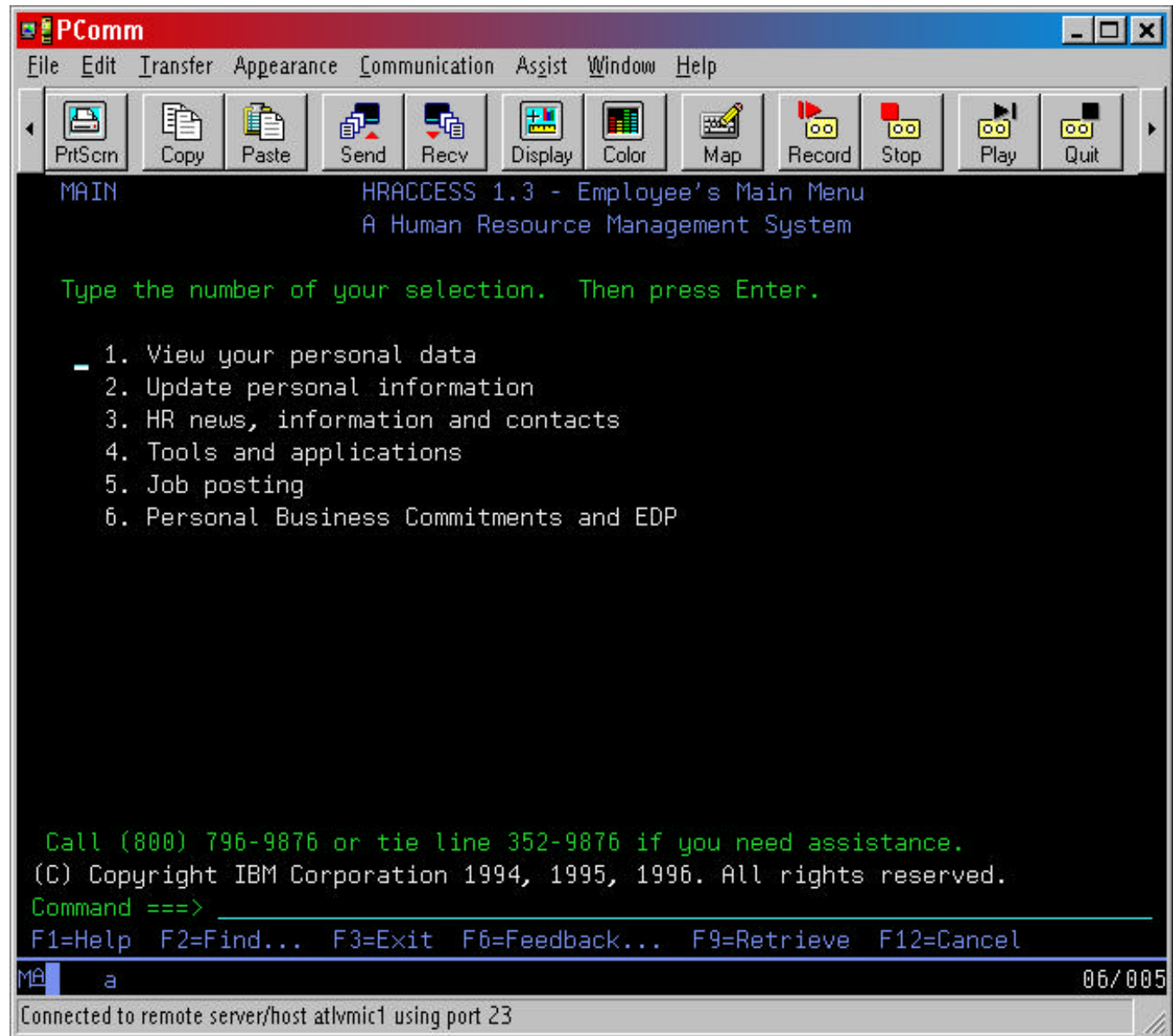
Turn this ....

Into this ... with Screen Customizer

Host Integration Security

Features for Secure WEB Access

▸ TN Server authentication
    TN Server sends X.509 certificate to HOD to identify itself

▸ TN Client authentication

▸ Transport-level security - SSL V3 session data encryption

Host On-Demand V4 Features

AS/400 Support	
Enhancement	**Benefit**
5250 Host Print, 5250 File Transfer	**Increases productivity of AS/400 users**
Native AS/400 Install	**Enables rapid AS/400 deployment**
5250 Device ID	**Provides easy connection to AS/400 resources**

Enterprise Class Services and Security	
Enhancement	**Benefit**
SLP Load Balancing support	**Ensures optimal Host On-Demand performance**
SSL Client Authentication	**Prevents connections from unauthorized clients. Supports PKI standard. CS/AIX, CS/NT and CS/390 will support client authentication in 3Q99.**
LDAP Directory enablement	**Provides reliable central administration for large number of users**
Support for On-Demand Server	**Enables personalization and better access control (9/99)**

Host On-Demand V4 Features

User Productivity	
Enhancement	**Benefit**
Migration of PCOMM host configuration, User assigned ID and password	**Gives users more control while minimizing administration support required**
3270 Host Graphics	**Extends host access to GDDM vector graphics applications**

Application Development	
Enhancement	**Benefit**
Host Access ActiveX Controls	**Programmers can utilize existing Visual Basic skills while benefiting from the features of the Host Access Beans for Java**
Host Access Beans for Java Enhancements	**Extends application support to both client and server models**
IBM Connector delivered with VisualAge for Java	**Enables rapid development of e-business applications and integration with other IBM connectors**

Screen Customizer Features

Enterprise Class Services and Support

Enhancement	Benefit
Support for Host On-Demand and Personal Communications	Delivers complete web enabling solution; provides consistency across environments
Native AS/400 and S/390 installs	Enables rapid deployment
Support for On-Demand Server	Enables personalization and better access control

Application Development and Deployment

Enhancement	Benefit
Can combine information from multiple hosts into single GUI	Further simplifies user interactions required to complete tasks
Use of common server for custom screens across HOD and PCOMM	Minimizes I/T expense maintaining screens across HOD and PCOMM clients

User Productivity

Enhancement	Benefit
New functional support (e.g. host print, file transfer)	Provides consistency with PComm , HOD
Support for 21 National Languages	Users can work in their native language

Scenario 2:
# A New Way of Using Existing Applications

- WEB access to existing applications with an optional new look and feel for employees and business partners (intranet and extranet)

- **Transform host applications into new composite WEB applications for employees, business partners and customers (intranet, extranet and Internet)**

- **Deliver business applications to any type of computing device from WEB browsers to cell phones**

IBM Host Publisher

Merge two or more existing applications ...
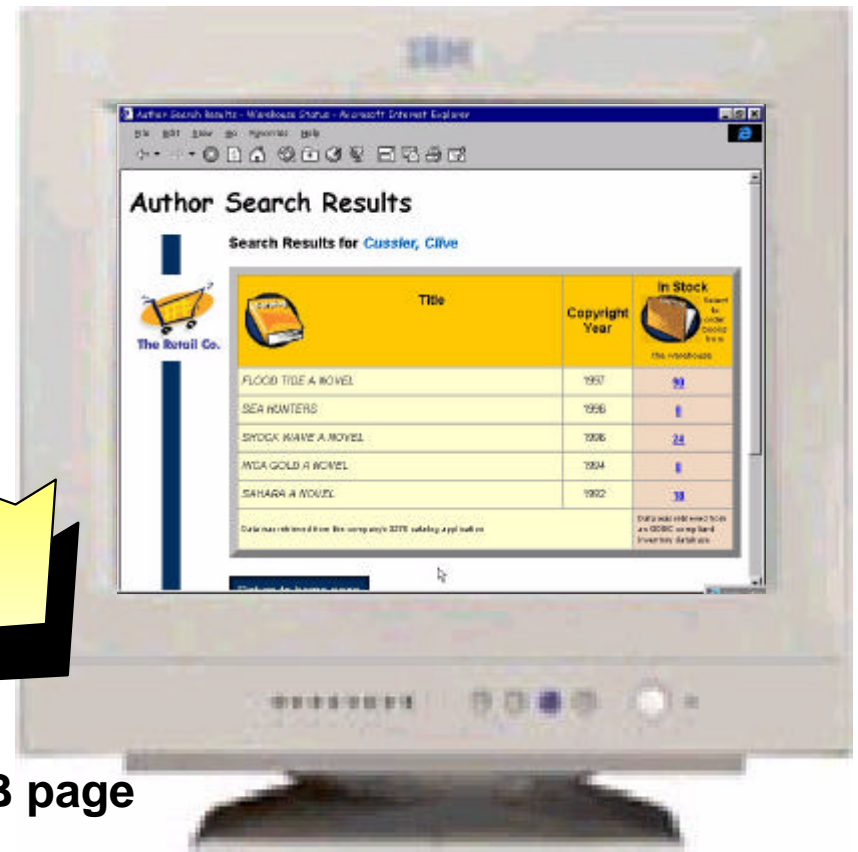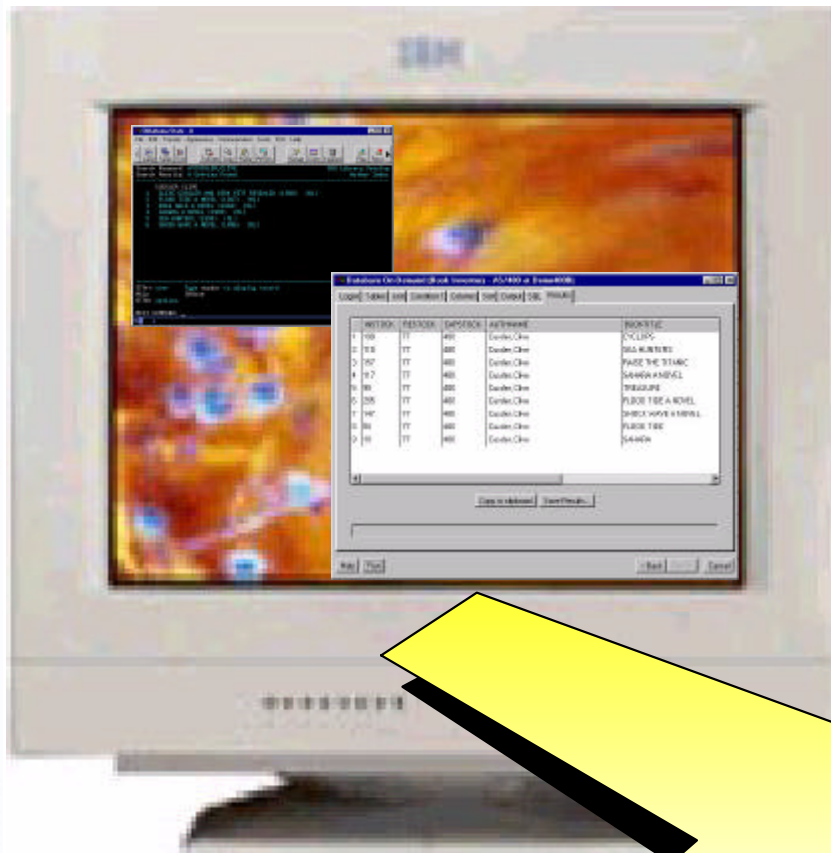
into a single composite WEB page

The components

Host Publisher Studio

Win95, Win98, WinNT

- Creates reusable Host Integration Objects
- Generates customizable WEB pages
- Uses task oriented GUI

IBM WebSphere Application Server (Standard Edition)

Packaged *with Host Publisher Server to support the runtime environment.*

Host Publisher Server

S/390, AIX, WinNT, Solaris, AS/400

- Provides runtime services
- Supports SSL encryption and DES encrypted passwords
- Supports integration with other IBM connectors

How Host Publisher and Websphere work together

- **Host Publisher delivers a quick and easy way to extend existing applications to new Internet users with little to no new business logic**

- **WebSphere provides a robust Java infrastructure for the development and execution of Java applications and Servlets, and focuses on adding new business logic to existing applications or deploying totally new WEB applications**

- **WebSphere Standard Edition is packaged with Host Publisher as a key component of the runtime environment**

- **Host Publisher and WebSphere complement each other**
  - Integration Objects created by Host Publisher can be reused within WebSphere developed applications
  - Java objects created with WebSphere can be imported and used in Host Publisher
  - WebSphere Studio can be used to enhance the HTML page produced by Host Publisher Studio
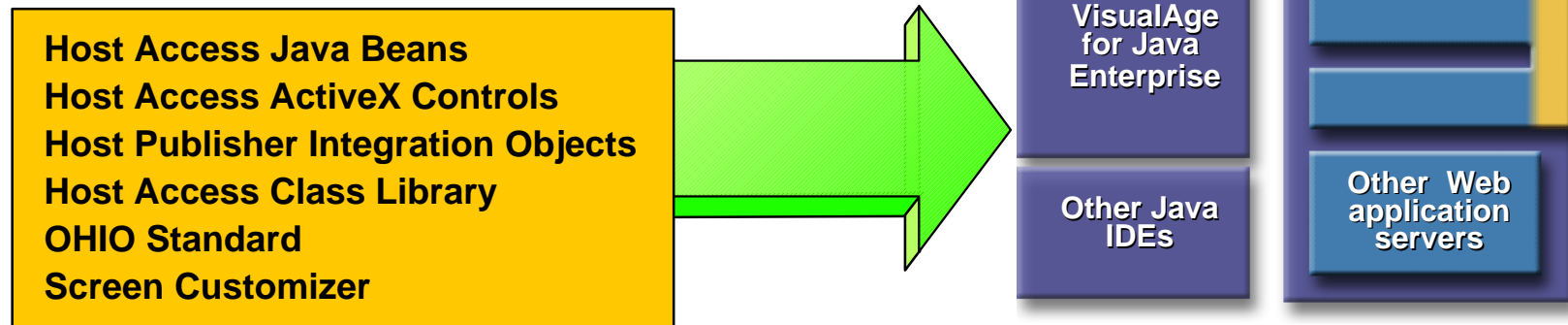
e-business Application Support

Host Integration Application Development Components

Host Access Java Beans
Host Access ActiveX Controls
Host Publisher Integration Objects
Host Access Class Library
OHIO Standard
Screen Customizer

WebSphere Application Server

VisualAge for Java Enterprise

Other Java IDEs

Other Web application servers

- Application developers can quickly respond to business pressures and capitalize on new market opportunities
- Host Access Beans are key to IBM connector strategy
- Leverages and integrates with the WebSphere strategy
- Both client and server application models are supported

Scenario 3:
Taking WEB Applications to New Devices

- WEB access to existing applications with an optional new look and feel for employees and business partners (intranet and extranet)

- Transform host applications into new composite WEB applications for employees, business partners and customers (intranet, extranet and Internet)

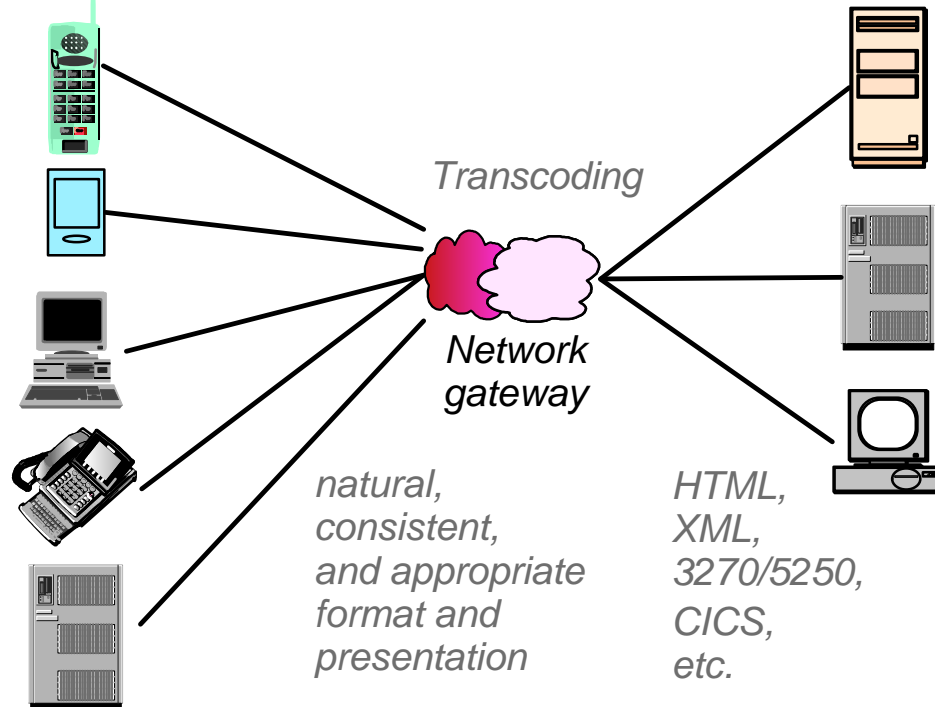- **Deliver business applications to any type of computing device from WEB browsers to cell phones**

Extend access to pervasive devices - Websphere Transcoding Publisher

Challenges

- ► Data format and content varies
- ► Device I/O and network varies
- ► Standards are still emerging

Transcoding

Network gateway

natural, consistent, and appropriate format and presentation

HTML, XML, 3270/5250, CICS, etc.

Ensure that delivered content is appropriate to device, network, user, and application

- ► Content format and representation
- ► Content size
- ► Content detail

The technology to do this : Transcoding

What is Transcoding ?

- Software that filters, enhances, converts or reformats data (e.g., Host and WEB content) to

  ► Match the form factor and capabilities of the client device

  ► Enable business to business communications via XML technology

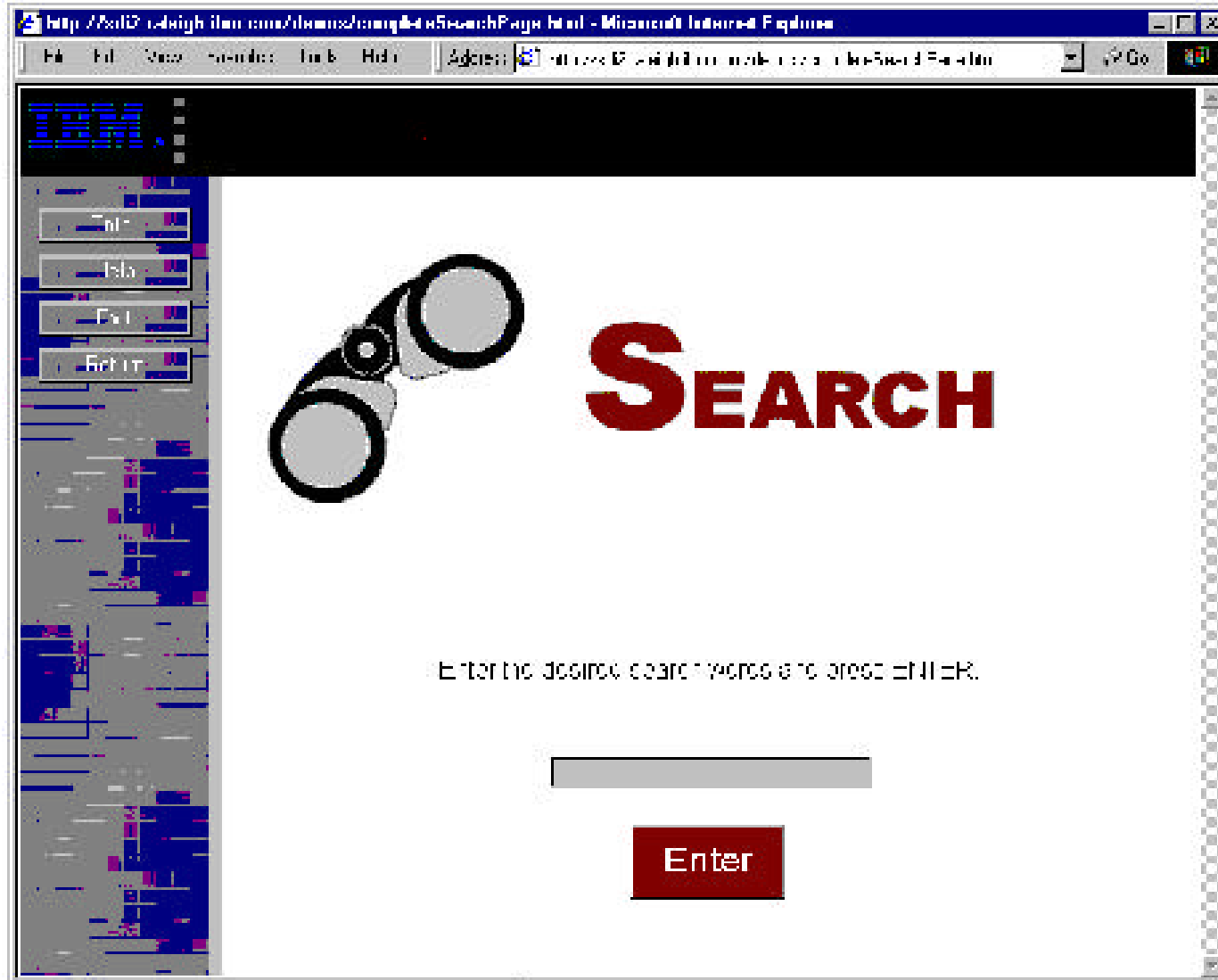 ► Provide a multitude of devices and systems and their users with better access to information

Take an existing green screen application
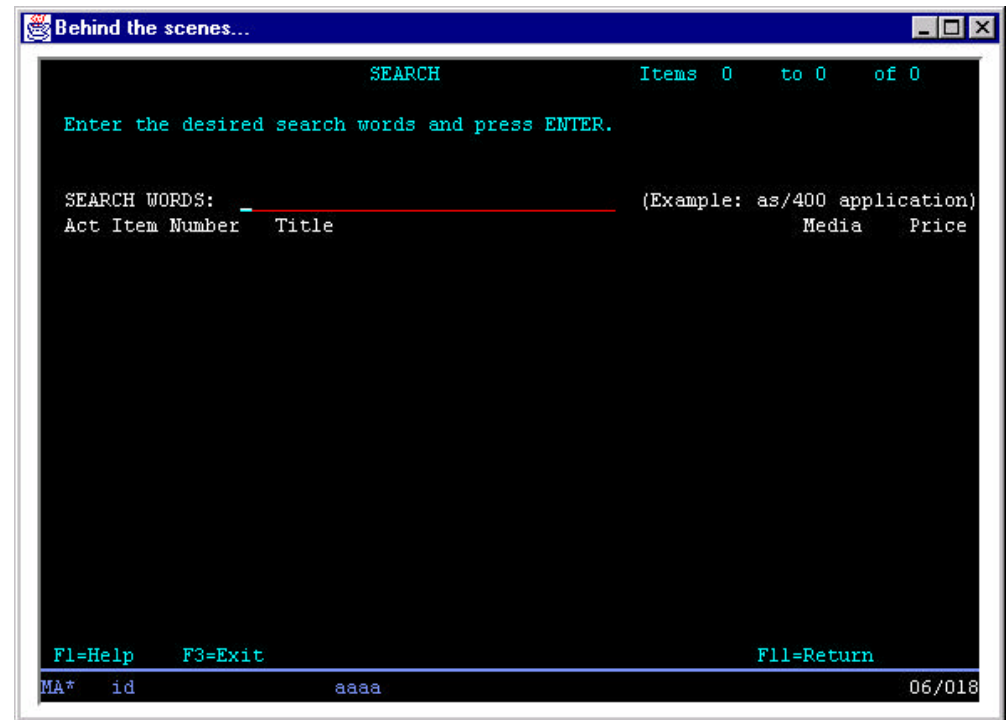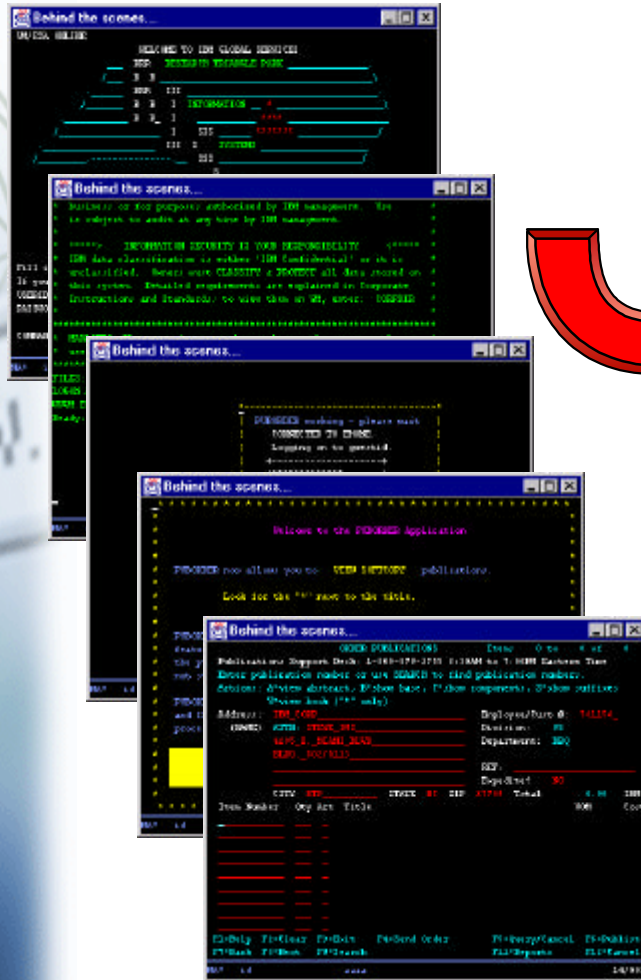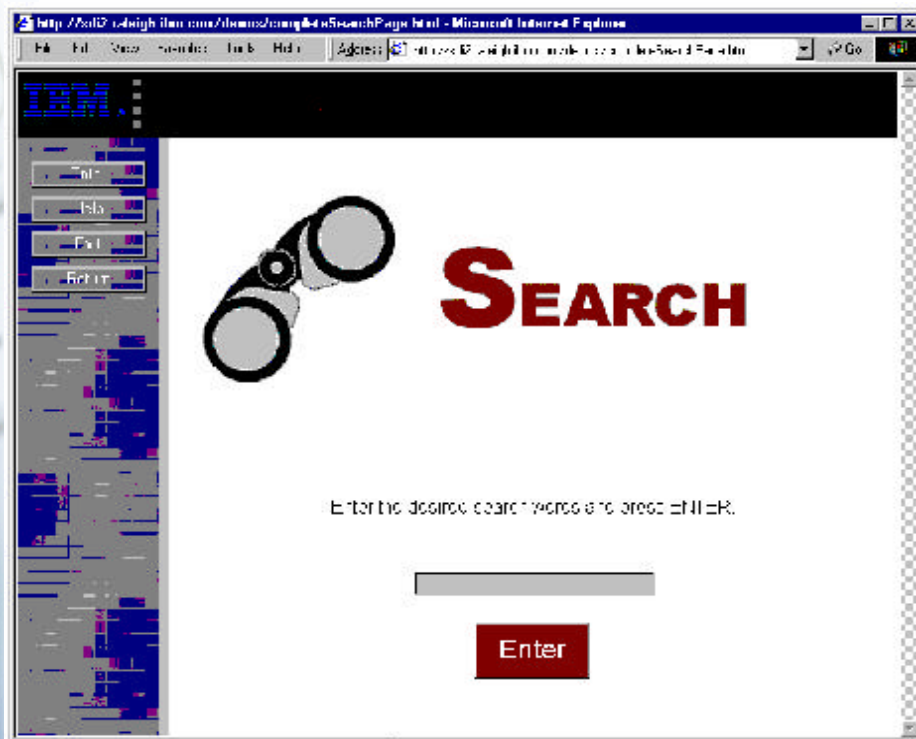
...to a WEB page with Host Publisher....

...and then to the Palm with IBM Websphere Transcoding Publisher

Complete Personalization:
Personalized, Transformed, and Rendered

Websphere Transcoding Publisher for e-business

Product Offering

- GA March 17, 2000 on NT, AIX, Solaris and Linux

  (all on 1 CD)
- Open Beta program in progress:

  www.ibm.com/software/secureway/transcoder

Devices Supported

- Desktops - any OS with a browser
- Palm Pilots and Workpads with Hand WEB browsers
- WinCE Devices with Pocket Internet Explorer
- WAP devices

Base Transcoding Plugins

- HTML to HTML (image and text reduction/reformatting)
- XML to XML variants (via stylesheets and DTDs)
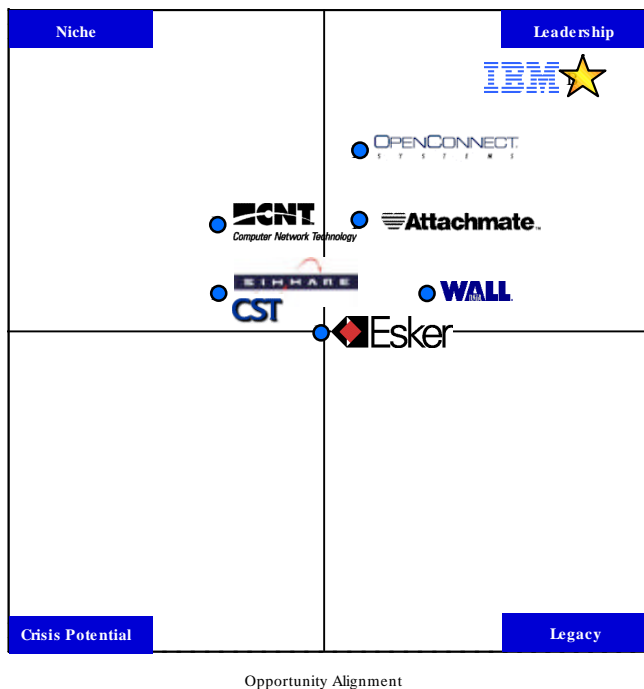- XML to WML, HTML to WML

- More Plugins to come

Host Integration:

How Do We Fair Against the Competition?

Host Integration Market Position

IDC Leadership Grid

Niche		Leadership
		IBM ★
	OpenConnect Systems	
CNT Computer Network Technology	Attachmate	
CST	WALL	
	Esker	
Crisis Potential		Legacy

Ability to Gain Share

Opportunity Alignment

Source: International Data Corporation, 1999

Gartner Group "Magic Quadrant"

Challengers   *Leaders*

- NetManage
- WRQ
- Hummingbird Communications
- Esker
- IBM
- Attachmate
- Wall Data
- Persoft
- OpenConnect Systems
- Eicon Technology
- FutureSoft

Middleware, Legacy Extension and Web Integration Vendors

Ability to Execute

Niche Players   *Visionaries*

Completeness of Vision
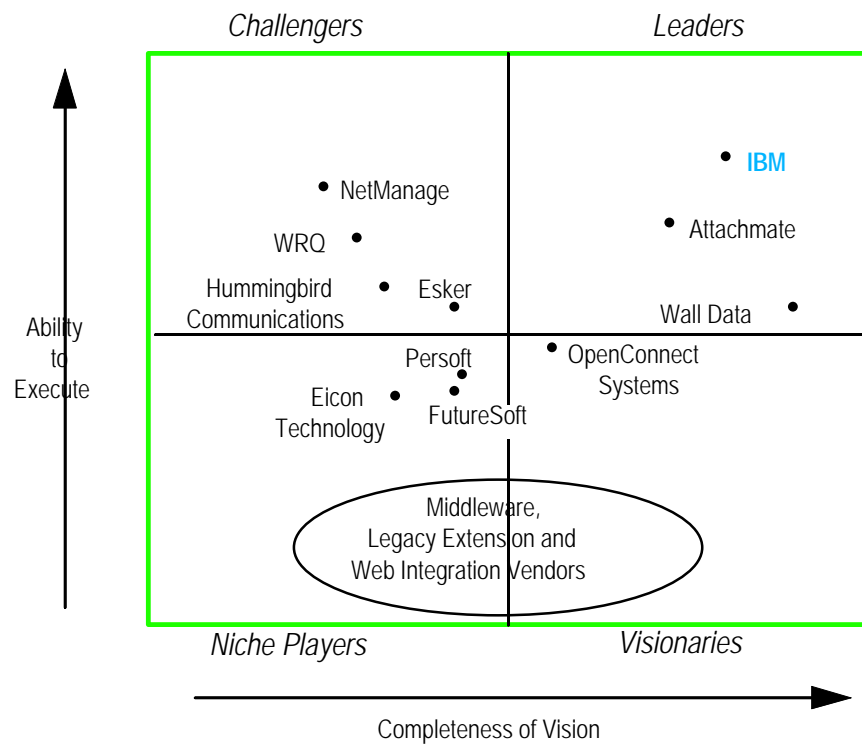
Source: Gartner Group, 1998

Host Integration Offering- Competitive Advantages

- **Widest range of options** with integration, reliability, services and support from a single vendor
- Includes **traditional and WEB-to-host connectivity** for single price/user
- Supports **broadest range of platforms** (S/390, AIX, AS/400, Windows NT, Windows 2000, Solaris, Unixware, Netware, Linux, OS/2, HP-UX)
- Provides **broadest programming support**
- Provides **application rejuvenation with no programming for WEB and traditional clients**
- Based on **open industry standards**

Personal Communications - Competitive Advantages

- **Extensive protocol support including APPN, APPC, SNA, TCP/IP, and IPX**
- **Same look and feel across multiple operating systems**
- **Based on open systems architecture for industry standard solutions**
- **Most comprehensive set of programming APIs including EHLLAPI, SNA, HACL, Java Beans, ActiveX, and ODBC / DRDA**
- **Works with Host Integration products, including Screen Customizer and Communications Servers**

Host On-Demand - Competitive Advantages

- **Broadest range of platforms in industry**
- **Broadest programming support**
- **TN3270, TN5250, and VT support**
- **Based on open industry standards**
- **Provides default GUI and ability to create custom GUI, with no programming using Screen Customizer**
- **Provides ability to run custom and default GUI in the same application using Screen Customizer**
- **Requires no middle tier runtime server**
- **Directory enablement and load balancing**

Screen Customizer - Competitive Advantages

- **Simple rejuvenation of host screens using drag and drop technology, no programming required.**

- **Uses Host Access Class Libraries (HACL) based on industry standard Open Host Integration Objects (OHIO).**

- **Broadest range of platforms in industry...also works with both HOD (thin client) and PCOMM (thick client) emulators.**

- **Powerful and easy to use...automatic menu buttons, defined input fields, and hot spots...the administrator can customize screens by adding new objects, changing fonts or colors, hiding host fields, reordering work flow, combining data, or automatically navigating the user through screens.**

Host Publisher - Competitive Advantages

- **Support for largest number of platforms and WEB servers**
- **Speed and ease of development without a prerequisite IDE**
- **Standards based Java Host Integration objects and Database Integration objects**
- **Does not require dedicated host session per user**
- **WebSphere integration - common technological foundation with other IBM WEB-to-host products**
- **Works with industry standard HTML editors or industry standard Java IDEs**
- **Load balancing with Network Dispatcher**

Communications Server - Competitive Advantages

- **Broadest range of platforms in industry**
- **Broadest programming support**
- **TN3270 and TN5250 support**
- **Based on open industry standards**
- **Full APPN Network node capabilities**
- **Branch Extender and Enterprise Extender support**
- **Native SNA security and encryption**

Leave It to IBM to ...

- Deliver a Business Transform and Integration solution that converges Host Integration with WebSphere to create a continuous platform for e-business

- Offer the best e-business solutions and tools simultaneously with the most innovative strategic initiatives

Host Integration Demo

To access the host integration demo, screen cams, screen captures and script, please go to the following URL:
http://swaydemo.dfw.ibm.com/connected/ for complete instructions

Summary

- The Host Integration Solution continues to deliver on its vision:
  - Robust AS/400 and S/390 Host support
  - Enterprise class services and security
  - Flexible application development and deployment
  - Platform and network environments of choice
  - Multiple delivery options for one price point
  - Open-standards based products
  - Integration with WebSphere
  - Integration of Host Publisher with Websphere Transcoding Publisher