



e-business software

The difference
is WebSphere.

IBM WebSphere Host Integration Solution: The Fastest Way to Take Your Legacy Applications to the Web





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is WebSphere.

Session Objectives

- WebSphere Vision
- WebSphere Host Integration Overview
- Product Details
- Demonstration
- Tools to Integrate Host Applications with WebSphere
- Host Publisher: Reduce Time to Market

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, enclosed in a black rectangular box.

IBM



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e-business: Changing The Shape Of Business

New Customers

***Internet users in 2000 will grow
53% from YE99***

- Internet doubles in size every 18 months
- Bandwidth doubles every 4 months

New Ways to Connect

***98% of 540M cell phones sold in
2003 will receive and display data***

- By 2004, 600M people will connect by PC
- 1.4B by cell phone
- 1.4B by wired phone

New Channels

***Avg. sale at Macys.com 40%
higher than in stores***

- Extended demographics
 - on-line customers, 50% men, in stores, mostly women
 - established brand in areas with no retail presence

New Ways of Doing Business

- In 1999 120% growth in e-retail
- \$33B B2C revenue in 1999, growing to \$61B in 2000
- Business-to-business commerce growing to ***\$2.7 trillion*** by 2004



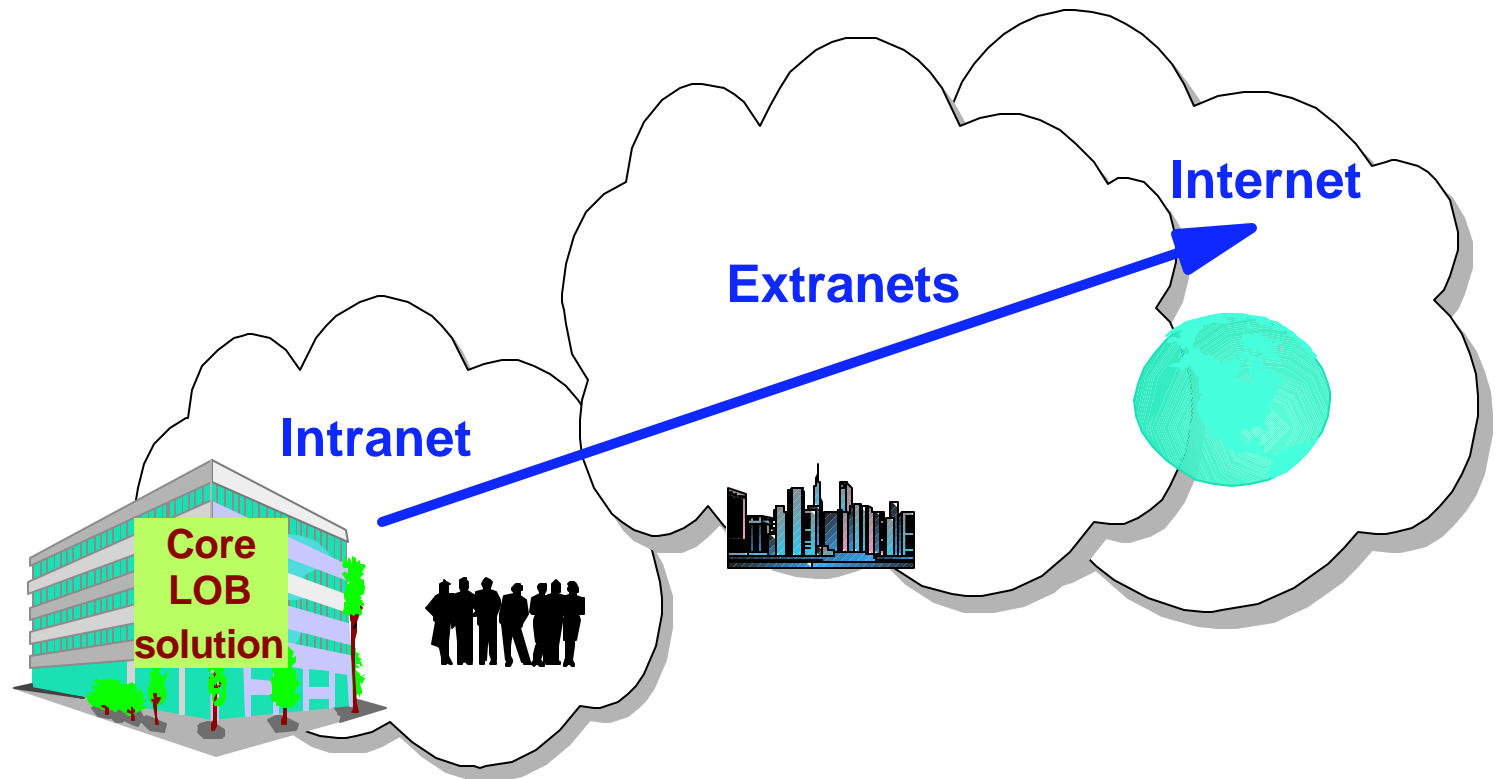
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Legacy Integration

- 70% of applications and data reside on host system
- Recent eWeek article found 68% of spending is integration with legacy apps





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WebSphere Vision

To lead the enablement of the e-business revolution by providing businesses with the software and services to power e-business integration, delivery, growth, and differentiation.

WebSphere is an integrated e-business software platform based on open standards to rapidly and effectively develop and deploy web applications.

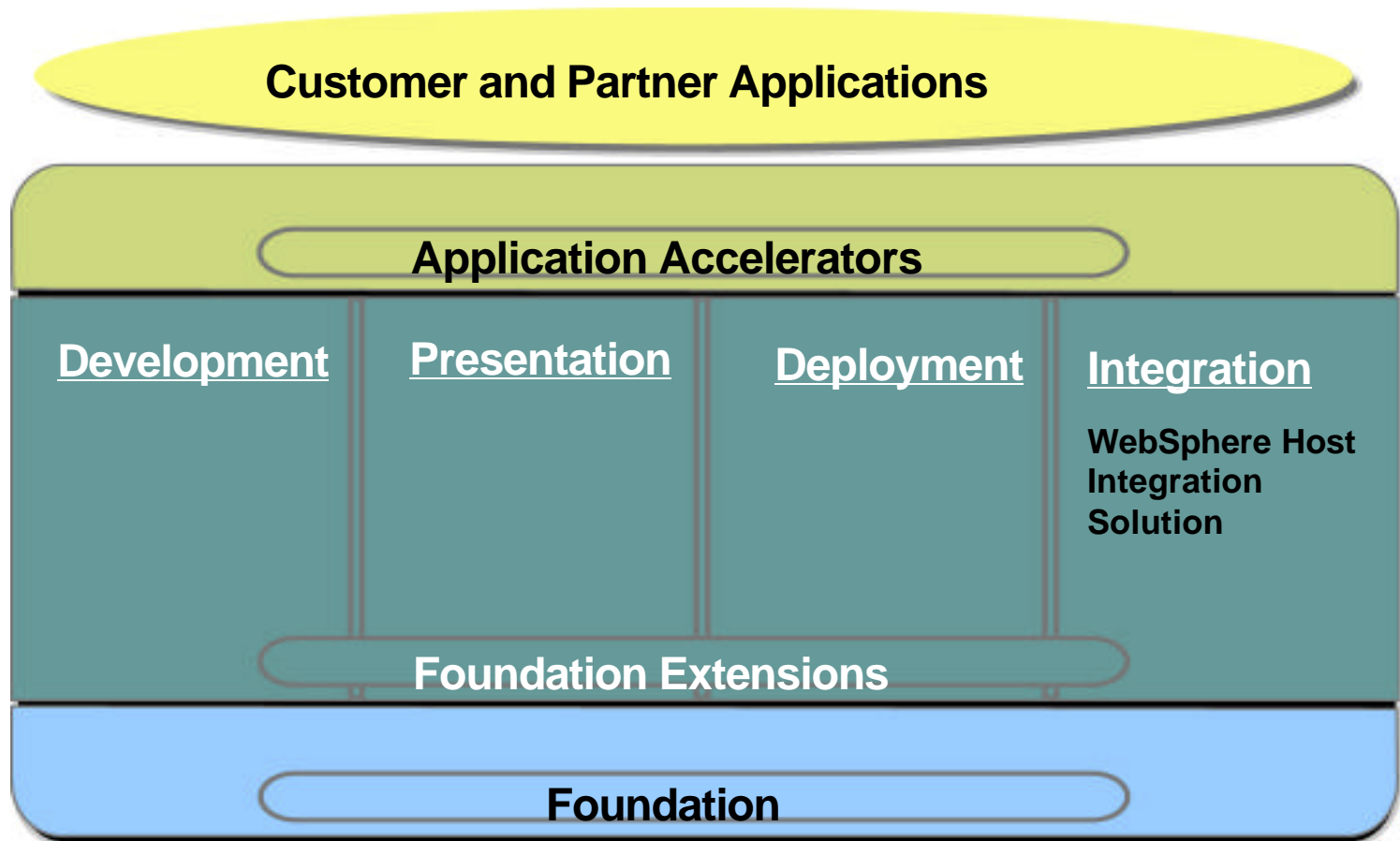
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WebSphere Software Platform for e-business





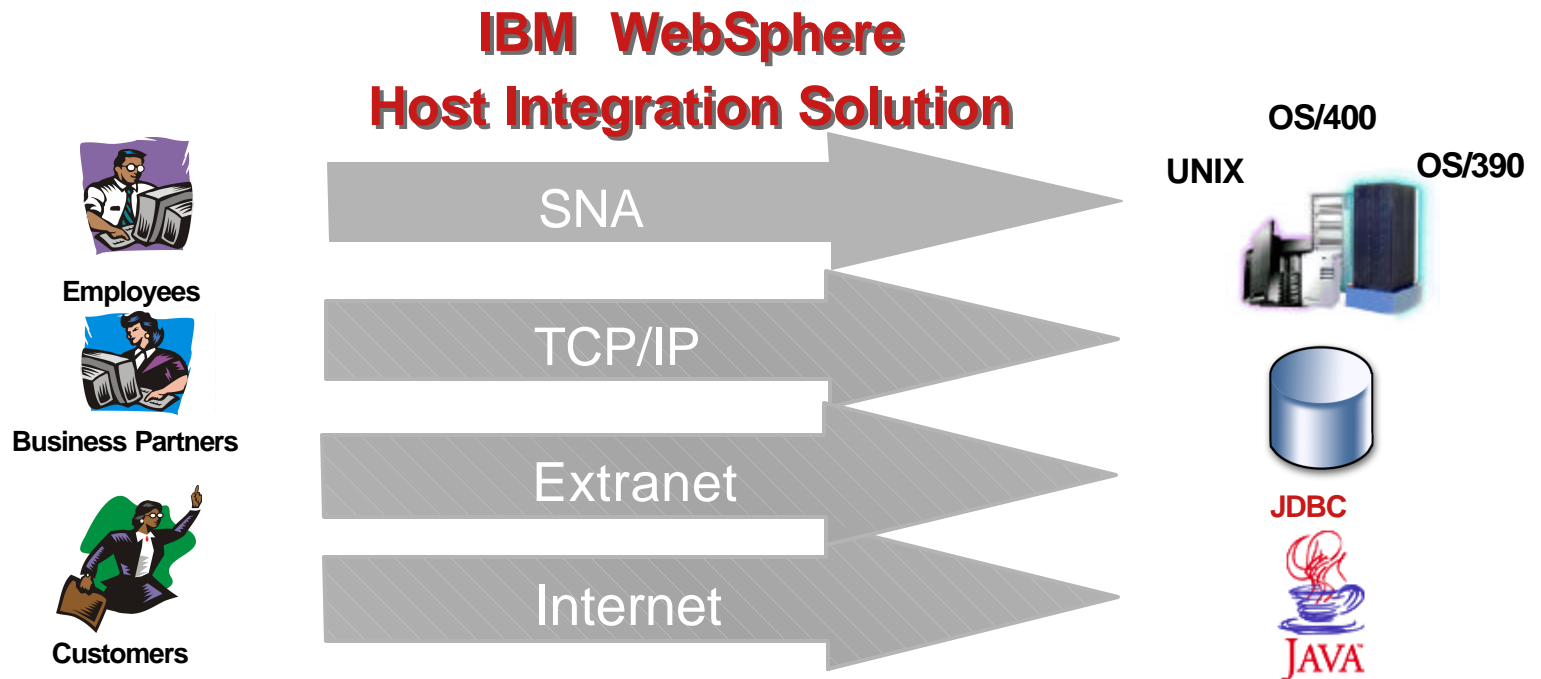
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Leverage Core Business Systems

- Deliver existing applications to new types of users
- Integrate existing applications for new business functions
- Support new types of users in a secure manner





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WebSphere Host Integration Products

✓ Personal Communications

professional emulation

✓ WebSphere Host On-Demand

Java emulator installed on a server and accessed from a Web Browser

✓ Screen Customizer

 a simple graphical user interface using drag and drop technology.

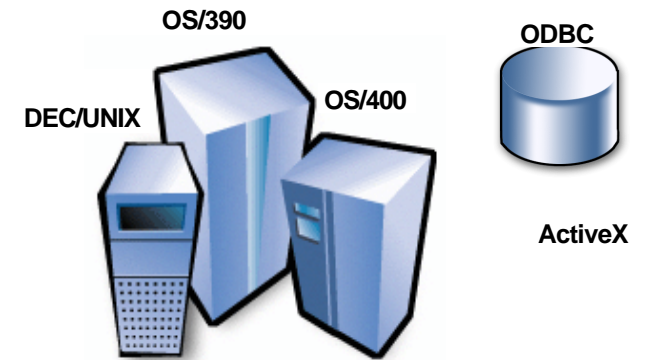
✓ Communication Servers

 SNA Gateways, TN3270E and TN5250 servers, security and support, optional carriers for Host Publisher

✓ WebSphere Host Publisher

 for existing application integration from multiple sources to an HTML/XML interface

✓ Host Access Toolkit

 Host Access Beans for Java, Host Access Class Library, tools for host integration into application development projects

• Value

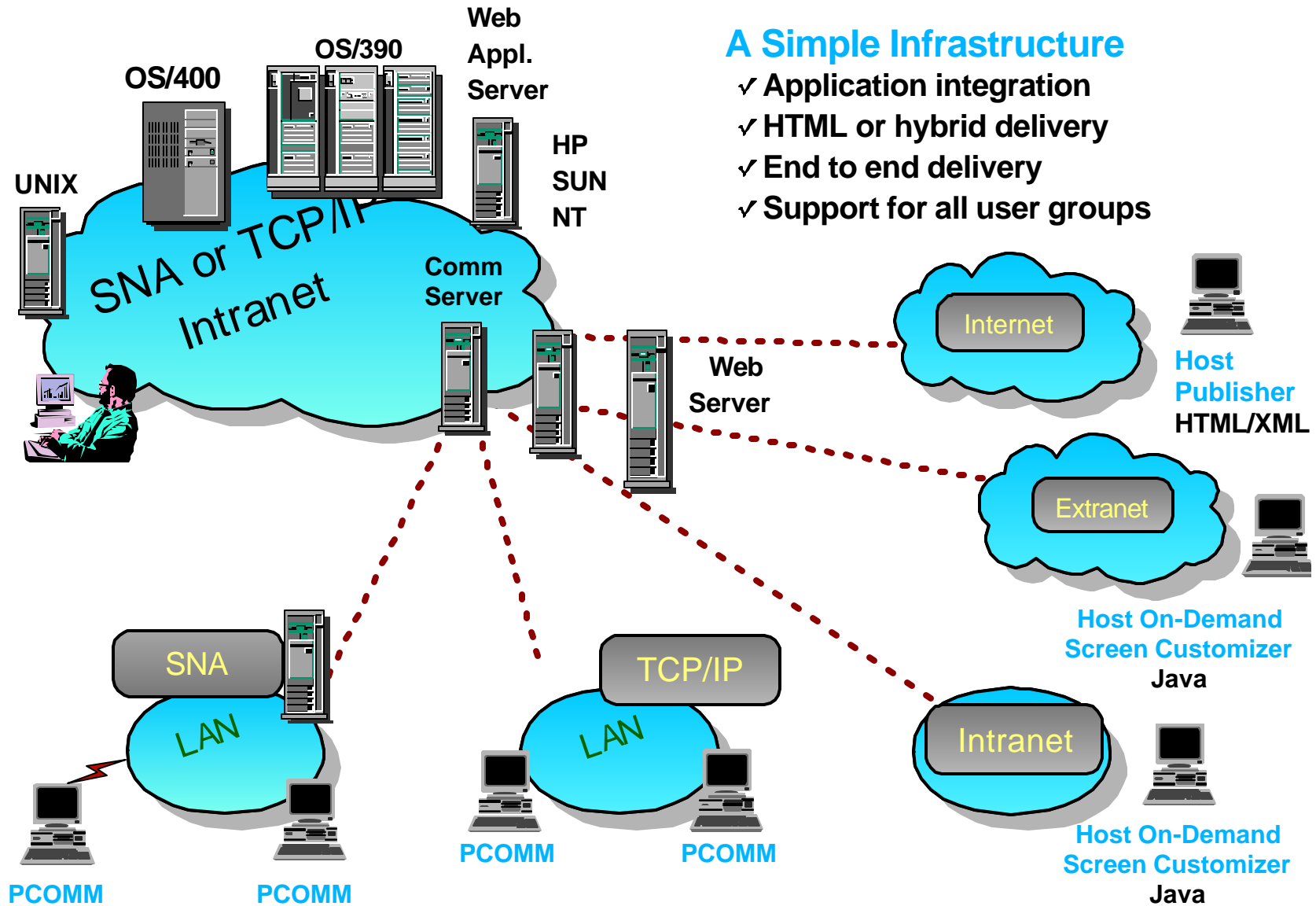
- Help protect and extend investment
- Improve user productivity
- More secure, scalable, multi-platform
- Fast, low risk and low cost way to integrate host with the Web
- Leverage the WebSphere Software Platform solutions



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Host Integration .. A network view



A Simple Infrastructure

- ✓ Application integration
- ✓ HTML or hybrid delivery
- ✓ End to end delivery
- ✓ Support for all user groups





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WebSphere Host Integration Solution

- ✓ You can start simple and grow your e-business fast, leveraging your legacy applications and data with new e-business solutions to maximize your total return on investment.
- ✓ Includes an extensive set of industry standard tools and APIs that simplify the creation and deployment of new e-business solutions.
- ✓ Provides the most comprehensive and flexible set of Web to host solutions in the industry for a single price per offering.





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WebSphere Host Integration

- ▶ From a technical point of view:
 - ▶ Host Integration provides 3270/5250/VT connectivity
 - ▶ Terminal Emulation Software
 - ▶ Extends host applications to the Web
 - ▶ Tools to enable rapid application development for integrating legacy assets



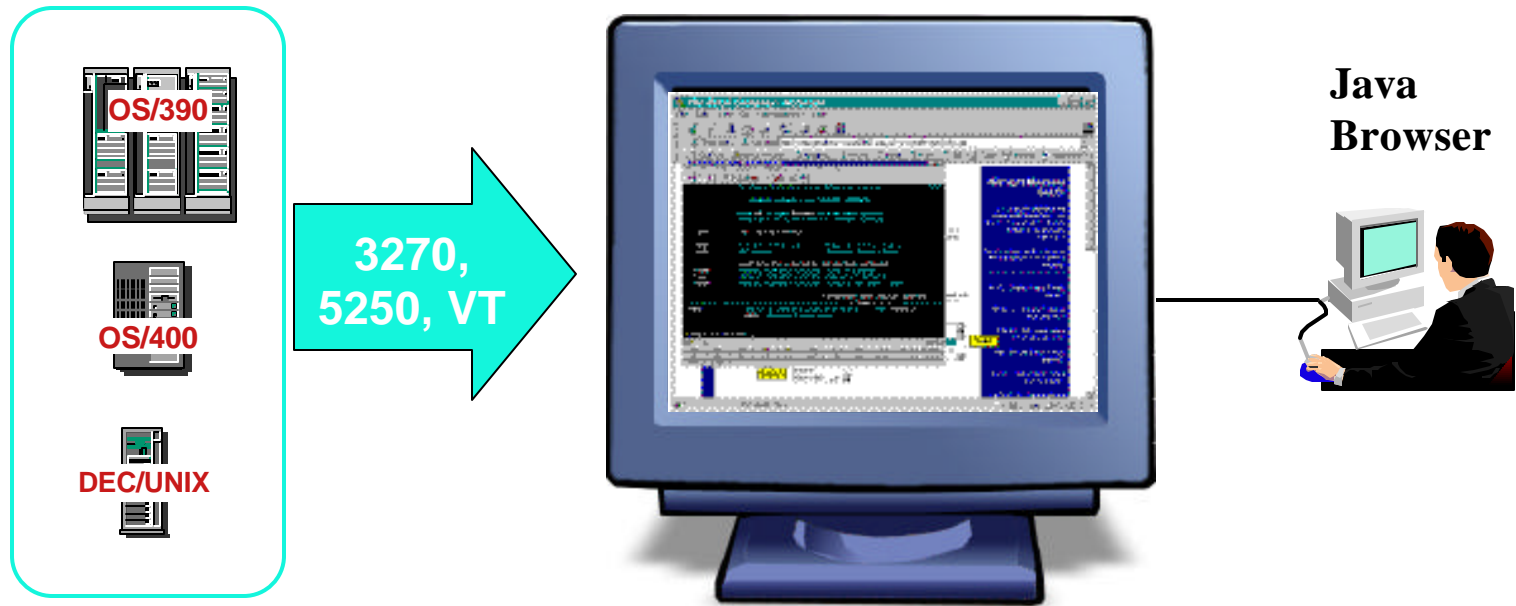


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WebSphere Host On-Demand



Web-to-Host Terminal Emulation Solution

- Extends host application reach to new users
- Reduces I/T costs through centralized install and administration
- Supports client and server platforms of choice
- Requires no middle-tier runtime server
- SSL Support and Client Authentication



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Host On-Demand ... "Green Screen"

OS/400 - A

File Edit Transfer Appearance Communication Assist Print Help

Jump Same Exit Send Recv Copy Paste PrtScrn Remap Color Keypad Play Record

Sign On

```

System . . . . . DEMO400B
Subsystem . . . . . QINTER
Display . . . . . QPADEV0006

User . . . . . _____
Password . . . . . _____
Program/procedure . . . . . _____
Menu . . . . . _____
Current library . . . . . _____

```

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MA a 06/053

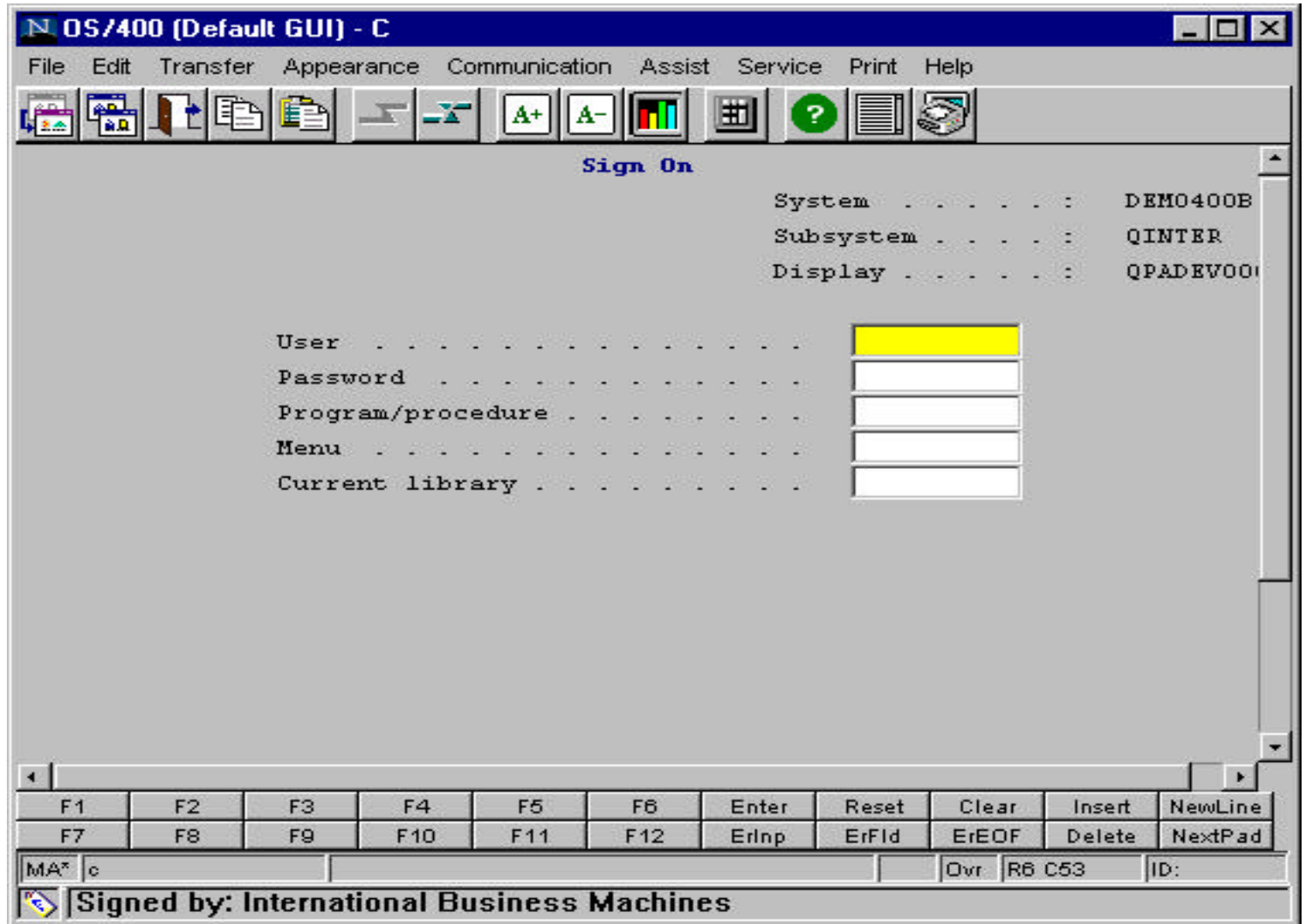
PF1	PF2	PF3	PF4	PF5	PF6	Enter	PA1	Attn	Insert	NewLine
PF7	PF8	PF9	PF10	PF11	PF12	Clear	PA2	SysReq	Delete	NextPad

Connected demo400b.dfw.ibm.com:23

Signed by: International Business Machines



Host On-Demand ... Default GUI



Host On-Demand with Screen Customizer





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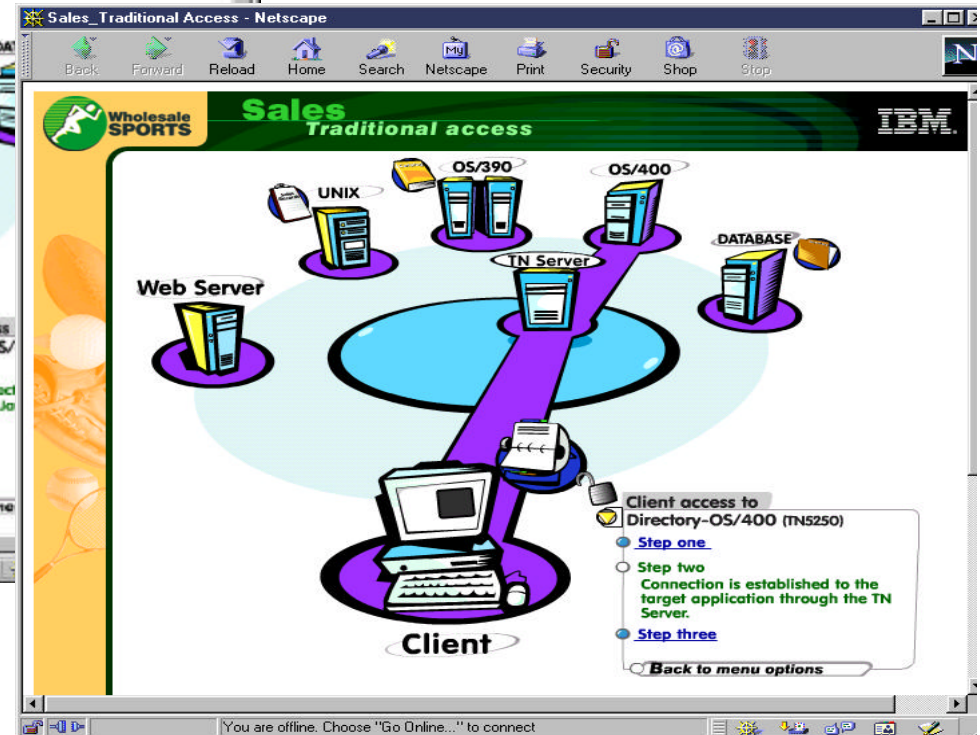
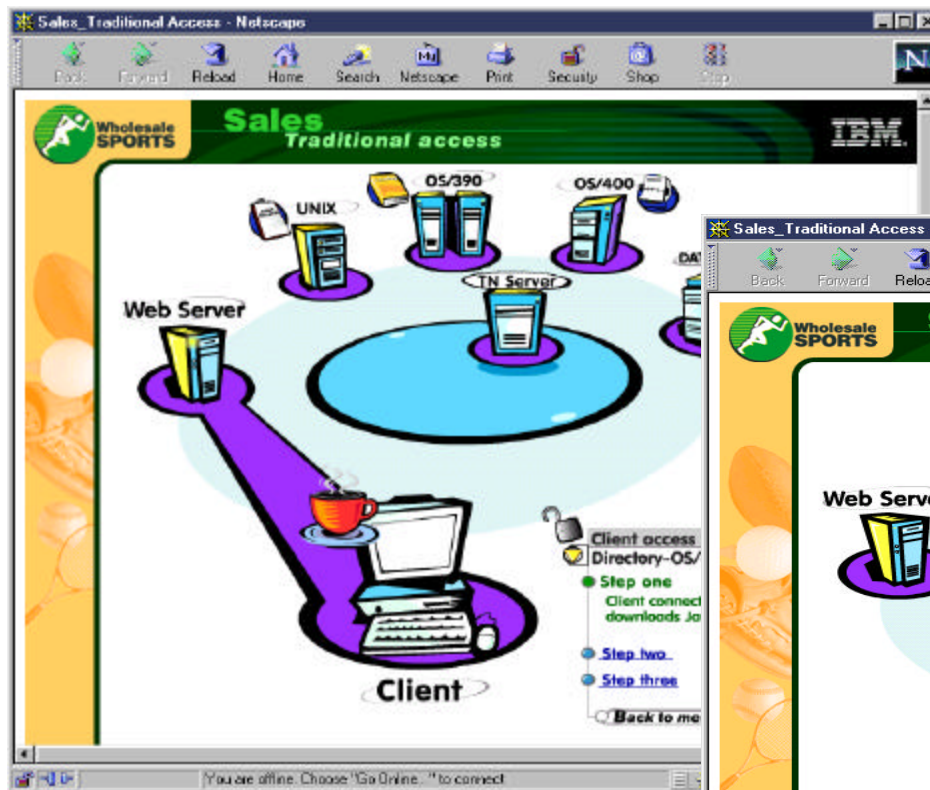


Host On-Demand ... a simple two step process

Access from any Java-enabled Web browser

Connect to Web server and download Java applet

Connect to host application or database

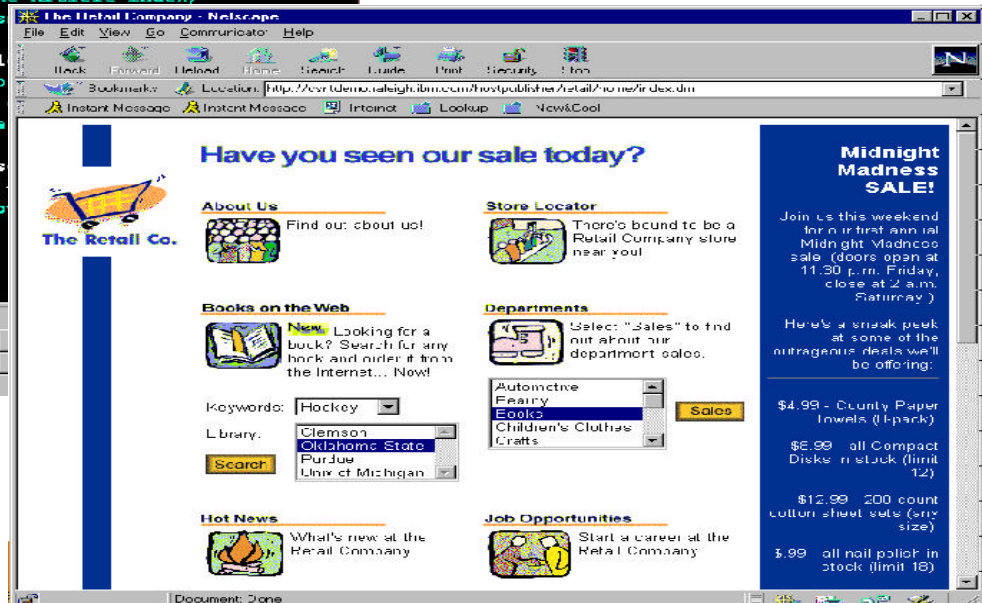
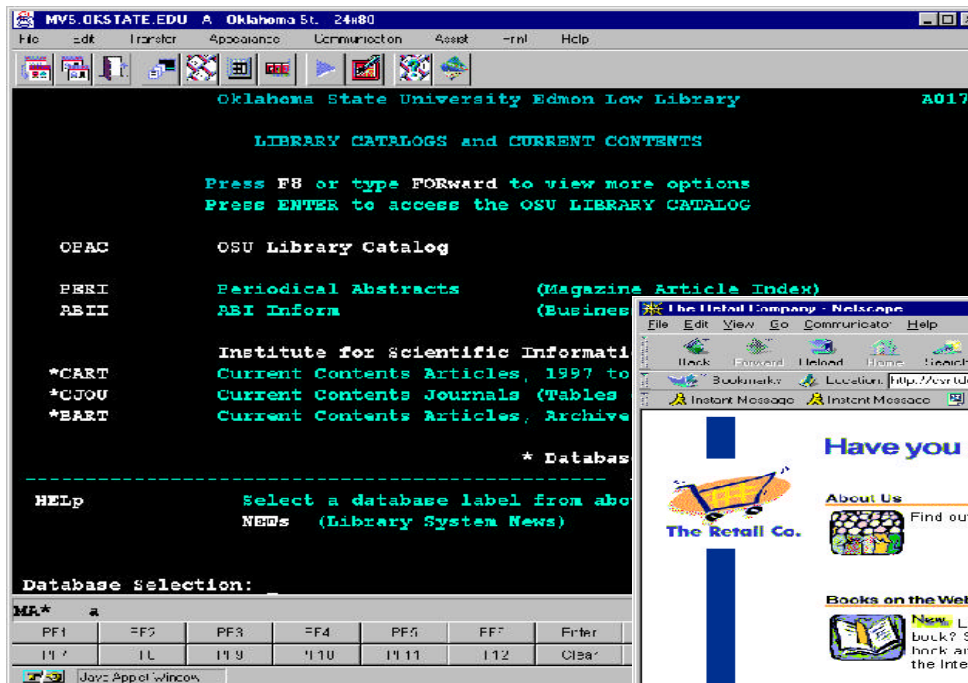


WebSphere Host Publisher



- Extends host applications to web browser users and new e-business applications
- Integrates multiple backend sources into custom HTML web pages
- Encapsulates Host Access into reusable Integration Objects
- Supports XML access to host applications
- Protects and leverages existing I/T investments

Combine multiple host applications into a single HTML Web page





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Porter County Indiana Tax Details Screen

```

Date: 11/05/99                               Time: 12:09:21
Dup No. 02 000251303 SHINGLER RAY C & SUSAN L/H&W   RIDGEWOOD CREEK
Parcel                                          UNIT 1 LOT 16
Stat A Cls 510   Mtg 3604 CHIMNEY HILL CT          DR467 P61 VLACD DITCH
By/SI 4/16/96   355 VALPARAISO                     IN46383
Drain 30   Consv 2   Bk/Pg 000 000 Inst #           Tx Sale N BANKRUPT
Property Address --> NO ADDRESS FOUND              Pre.Dupl.      278560
                                                    New.Dupl.      0
Land-Res   Impr-Res   Land N-R   Impr.N-R   Exempt   Net Value   C.of E.#
96         3430         20230     0           0         3000        20660     0
97         0           0         3430        20230     0         23660     0
98         0           0         3430        20230     0         23660     0
99         0           0         3430        20230     0         23660     0
Mtg        Y N N N   Hmstd Y N N N   Age      N N N N   DisVet   N N N N   Solar N N N N
Rehab      N N N N   WW1   N N N N   Blnd/dsabl N N N N   Tx Exmpt N N N N
Tax Due    Tax Paid    Date      Penalty   Pen.Paid   Date      Date Appld
96  A      793.42     793.42   5/12/97   .00        .00     0/00/00   6/03   0/00
   Y B      793.42     793.42  11/10/97   .00        .00     0/00/00  11/13   0/00
97  A      965.59     965.59   5/11/98   .00        .00     0/00/00   5/12   0/00
   Y B      965.59     965.59  11/10/98   .00        .00     0/00/00  11/18   0/00
98  A      909.92     909.92   5/10/99   .00        .00     0/00/00   5/24   0/00
   Y B      909.92     .00     0/00/00   .00        .00     0/00/00   0/00   0/00
F14-C0 F16-D1 F20-Sw
ENTER DUP NO F5-NAME F7-ADDR F9-NOTES F10-PADDR F11-BK/PG F12-RTRN

```

Tax Application Search Form

Select Type of Search to perform

Search by Name:

Search by Name

Search by Address:

Search by Street Name

Search by Dup. Number:

Search by Dup. No.

Signoff

Porter County Tax Information

Return to Main

Dupl. Number: 08 000560980

Owner Information		Property Address
SMITH AMOS G JR & MARIAN		6611 POTAMAC
POTOMAC DR		PORTAGE
PORTAGE IN46368		

Parcel:	Book: 343	Legal Description CAPITOL ESTATES RESUB UNIT 2 LOT 2
Status: A	Page: 443	
Class: 510	Instrument Number:	
Mig: 007	Tax Sale: N	
Buy/Sell: 2/28/78	Pre Dupl: 317502	
Draw: 8880000000000000	New Dupl: 0	

Corrv: 9

Tax History:

Land-Res	Impr-Res	Land-N-R	Impr-N-R	Exempt	Net Value	C. of E.#
97	1930	18930	0	2100	3000	19960
						0



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WebSphere Host Publisher

Host Publisher Studio

- ▶ simple interface
- ▶ creates Host Integration Objects

Host Publisher Server

- ▶ Run-time for Integration Objects
- ▶ A WebSphere Application!

JK Toys - The coolest toystore around!

My Search Results

Item#	Item Name	Price
91	Mountain Pass TR-X4	200.00
92	Absolute Ascent 26	250.00
93	Crestline Ridgerunner	275.00
94	Flight Factory U2	175.00
95	MoJo Out There	175.00
96	Sierra 7	300.00
97	Sidewalk Racer 2000	150.00
98	Driveway Dragon	125.00

Wizard to create JSPs for rapid HTML views of host info





Other Tools in Host Publisher

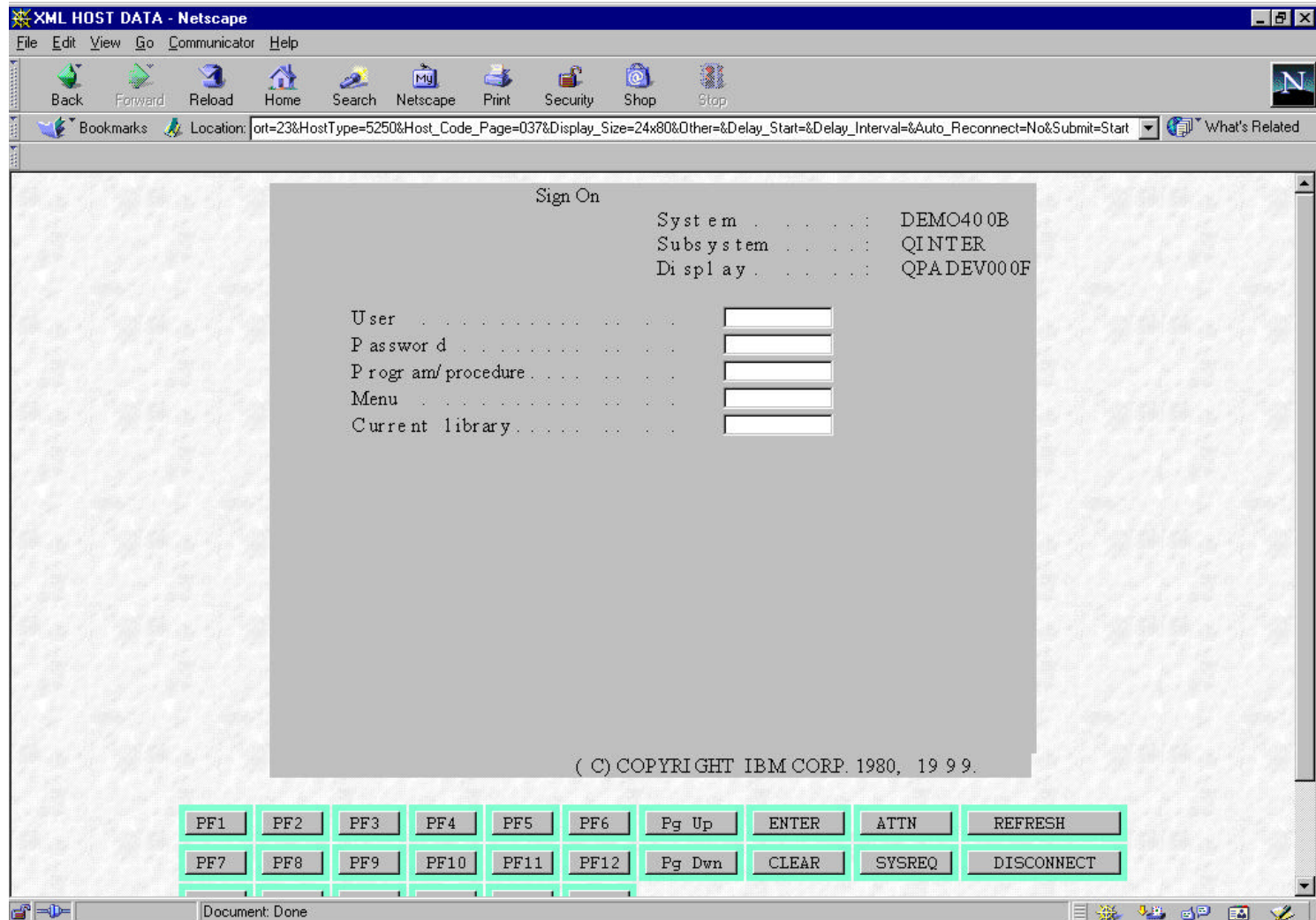
■ XML Gateway

- Automatically converts 3270/5250 data into XML format
- The 3270/5250 XML data may be used by other Java applications and servlets

■ HTML Mapper

- Entry level 3270/5250 HTML emulator for host access
- Not a full function emulator, but basic screen access

HTML Mapper

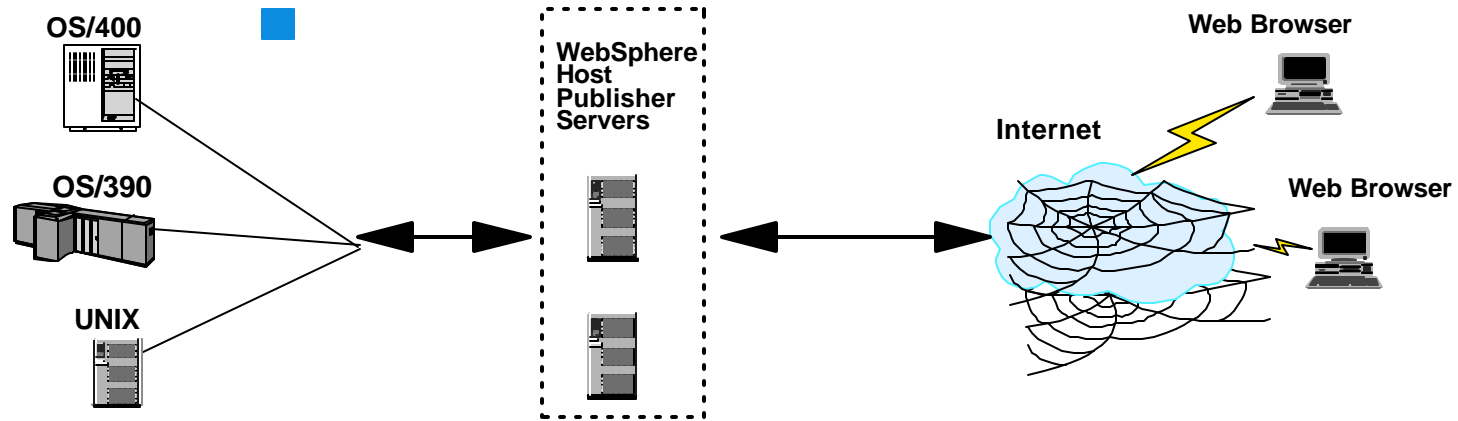




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WebSphere Host Publisher Security



- Users connect to Host Publisher, not directly to host applications
- Explicit control over content and services extended to end-users
- Only selected data passes to actual end-user PC



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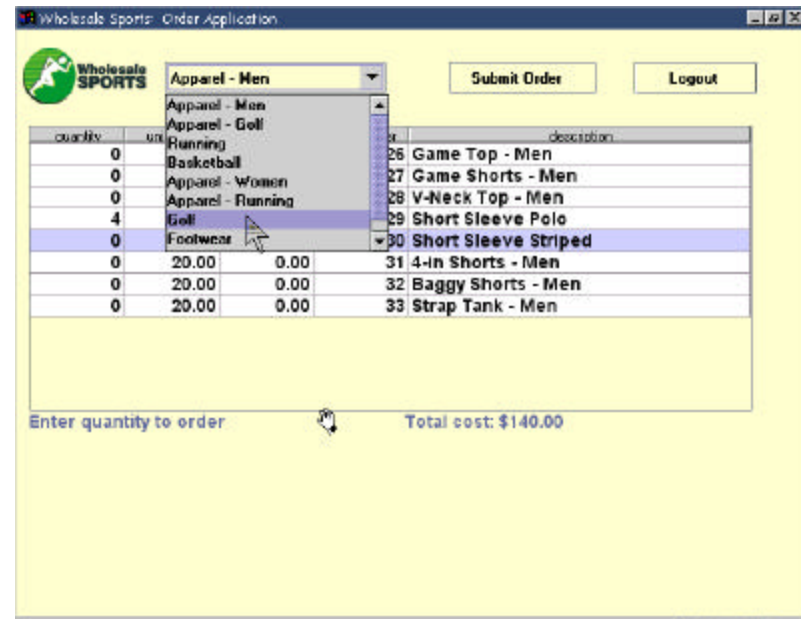
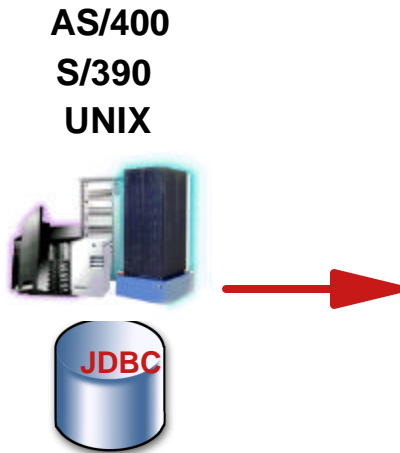
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WebSphere Host Publisher - Runtime



Host Integration Application Development

Integration with WebSphere





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Host Integration Development Options

- Host Access Beans for Java
 - Allows drop in emulation function and a simple interface to programming host interactions
- Host Access Class Library
 - Modern, object based API for host communication
- HOD Connector
 - Common Connector Framework compliant form of HACL technology
- Host Publisher
 - Accelerate integration of host applications by capturing host application information in a Java Bean for easy integration into WebSphere/VAJ development projects

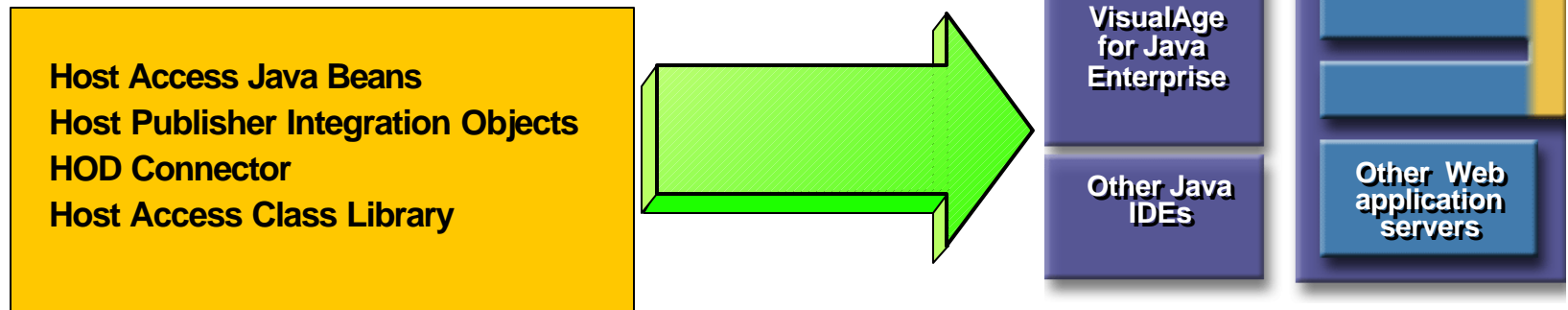


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Extensive e-business Application Support

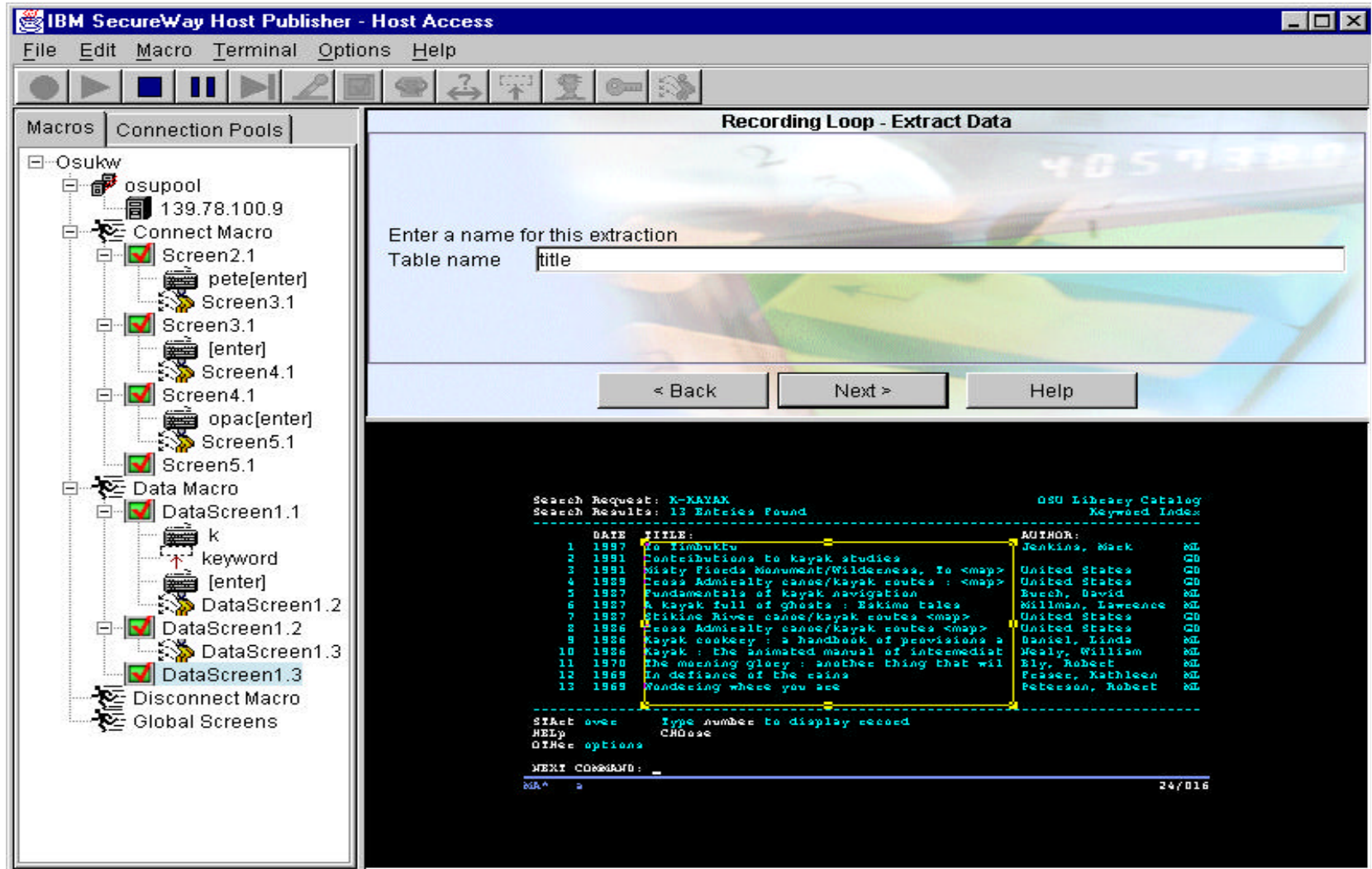
Host Integration Application
Development Tools



- ISVs, SIs, and corporate developers can quickly respond to business pressures and capitalize on new market opportunities
 - ✓ Modernize legacy applications
 - ✓ Extend desktop applications with host connectivity
 - ✓ Write host access applications once and use across network environments
- Host Access Beans are key to IBM connector strategy
- Host Publisher leverages and integrates with WebSphere strategy
- Both client and server application models are supported

Host Integration Objects

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IBM SecureWay Host Publisher - Host Access

File Edit Macro Terminal Options Help

Recording Loop - Extract Data

Enter a name for this extraction
Table name

< Back Next > Help

```

Search Request: K-KAYAK
Search Results: 13 Entries Found
OSU Library Catalog
Keyword Index
-----
DATE      TITLE:                                     AUTHOR:
-----
1 1997    To KIMBUKEU                               Jenkins, Mack      MD
2 1991    Contributions to kayak studies             United States     CD
3 1991    Misty Floods Monument/Wilderness. To <map> United States     CD
4 1989    Cross Admicalty canoe/kayak routes : <map> United States     CD
5 1987    Fundamentals of kayak navigation           Burch, David      MD
6 1987    A kayak full of ghosts : Eskimo tales     Millman, Lawrence MD
7 1987    Stikine River canoe/kayak routes <map>   United States     CD
8 1986    Cross Admicalty canoe/kayak routes <map> United States     CD
9 1986    Kayak cookery : a handbook of provisions  Daniel, Linda     MD
10 1986    Kayak : the animated manual of intermediat Neely, William    MD
11 1970    The meaning glory : another thing that wil Ely, Robert       MD
12 1969    In defiance of the rains                  Pesser, Kathleen  MD
13 1969    Wandering where you see                   Peterson, Robert   MD
-----
START over      Type number to display record
HELP           CHOOSE
DIRC options
NEXT COMMAND: _
OSU^ >
  
```





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WebSphere Host Publisher

- WebSphere Host Publisher Wizards create Host Integration Objects
- HI Objects are JavaBeans
- HI Objects contain the knowledge of an existing Host Application:
 - Host Access
 - Navigation
 - Data Extraction
 - Session Management
- HI Objects are portable JavaBeans - easy integration into other applications: JProp and XML interfaces

Get to Web Fast and Preserve Legacy Assets

Date: 11/05/99 Time: 12:09:21

Dup No. 02 000251303 SHINGLER RAY C & SUSAN L/R&W RIDGEWOOD CREEK
 Parcel UNIT 1 LOT 16
 Stat A Cls 510 Mtr 3604 CHIMNEY HILL CT BR457 P61 VLACD DITCH
 By/SI 4/16/96 358 VALPARAISO TN46383
 Drain 30 Conv 2 BK 000 000 Inst # Tx Sale N BANKRUPT
 Property Address --> NO ADDRESS FOUND Pre.Dupl. 278560

	Land-Res	Impr-Res	Land N-R	Impr.N-R	Exempt	Net Value	C.of E.#
96	3430	20230	0	0	3000	20560	0
97	0	0	3430	20230	0	23650	0
98	0	0	3430	20230	0	23650	0
99	0	0	3430	20230	0	23650	0

City Y N N N N Hmsto Y N N N N Age N N N N N Disvec N N N N N Solar N N N N
 Rehab N N N N N Ww1 N N N N N Bind/dabl N N N N N Tx Exmpt N N N N
 Tax Due Tax Paid Date Penalty Pen.Paid Date Date Appld
 96 A 793.42 793.42 5/12/97 .00 .00 0/00/00 5/03 0/00
 Y B 793.42 793.42 11/10/97 .00 .00 0/00/00 11/13 0/00
 97 A 965.59 965.59 5/11/98 .00 .00 0/00/00 5/12 0/00
 Y B 965.59 965.59 11/10/98 .00 .00 0/00/00 11/18 0/00
 98 A 909.92 909.92 5/10/99 .00 .00 0/00/00 5/24 0/00
 Y B 909.92 .00 0/00/00 .00 .00 0/00/00 0/00 0/00

F14-C0 F15-D1 F20-SU
 ENTER DUP NO F5-NAME F7-ADDR F9-NOTES F10-PAODR F11-BK/P6 F12-RTRN

Porter County Tax Information

Dupl Number: 25 000036200

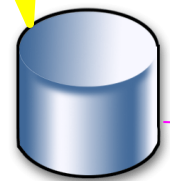
Owner Information	Property Address
ALICE	306 IROQUOIS TR BH
306 IROQUOIS TR BH	CHESTERTON
CHESTERTON IN46304	

Parcel: Book: 000
 Status: A Page: 000
 Class: 510 Instrument Number:
 Mtg: 999 Tax Sale: N
 Buy/Sell: 000000 Pre Dupl: 0
 Drain: New Dupl: 0
 Conv: 9

Legal Description
 INDIAN SPRINGS
 LOT 28

Tax History:

Land-Res	Impr-Res	Land N-R	Impr.N-R	Exempt	Net Value	C.of E.#
96	1870	9370	0	0	3000	8240
97	1870	9370	0	0	3000	8240
98	1870	9370	0	0	3000	8240
99	1870	9370	0	0	4000	7240



Wholesale Sports: Order Application

Wholesale SPORTS

Apparel - Men

Submit Order Logout

QTY	UNIT	DESCRIPTION
0		26 Game Top - Men
0		27 Game Shorts - Men
0		28 V-Neck Top - Men
4		29 Short Sleeve Polo
0		30 Short Sleeve Striped
0	20.00	31 4-in Shorts - Men
0	20.00	32 Baggy Shorts - Men
0	20.00	33 Strap Tank - Men

Enter quantity to order Total cost: \$140.00



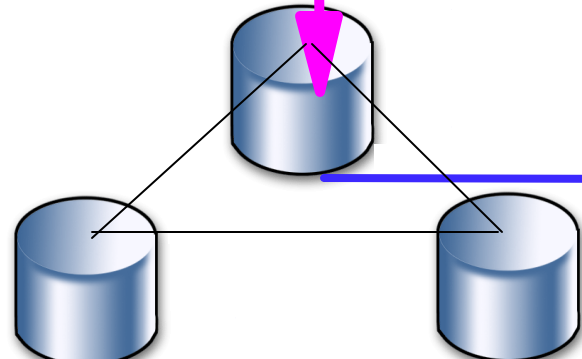
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Fully Leverage Legacy Applications into WebSphere

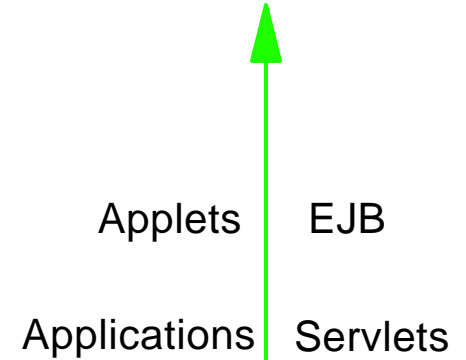
Host Applications

```

Date: 11/05/99      Time: 12:09:21
Dup No. 02 000251303 SHINGLER RAY C & SUSAN L/H&W      RIDGEWOOD CREEK
Parcel UNIT 1 LOT 16
Stat A Cls 510 Mtg 3604 CHIMNEY HILL CT      DR467 P61 VLACD DITCH
By/Sl 4/1      Date: 11/05/99      Time: 12:09:21
Drain 30 Dup No. 02 000251303 SHINGLER RAY C & SUSAN L/H&W      RIDGEWOOD CREEK
Property A Parcel UNIT 1 LOT 16
Stat A Cls 510 Mtg 3604 CHIMNEY HILL CT      DR467 P61 VLACD DITCH
Land-By/Sl 4/16/96 355 VALPARAISO IN46383
96 3 Drain 30 Conserv 2 Bk/Pg 000 000 Inst #      Tx Sale N BANKRUPT
97 Property Address -> NO ADDRESS FOUND
98 Date: 11/05/99      Time: 12:09:21
99 Dup No. 02 000251303 SHINGLER RAY C & SUSAN L/H&W      RIDGEWOOD CREEK
Land-Res Parcel UNIT 1 LOT 16
Mtg Y N 96 3430 Stat A Cls 510 Mtg 3604 CHIMNEY HILL CT      DR467 P61 VLACD DITCH
Rehab N N 97 0 By/Sl 4/16/96 355 VALPARAISO IN46383
Tax 98 0 Drain 30 Conserv 2 Bk/Pg 000 000 Inst #      Tx Sale N BANKRUPT
99 7 99 0 Property Address -> NO ADDRESS FOUND
Y B 7 Mtg Y N N N N Pre.Dupl. 278560
97 A 9 Rehab N N N N N New.Dupl. 0
Y B 9 Tax Due 96 3430 20230 0 0 3000 20660 0
98 A 996 A 793.42 97 0 3430 20230 0 23660 0
Y B 97 A 793.42 98 0 3430 20230 0 23660 0
Y B 97 A 965.55 99 0 3430 20230 0 23660 0
ENTER DUP NO. Y B 965.55 Mtg Y N N N Hmstd Y N N Age N N N N DisVet N N N N Solar N N N N
98 A 909.92 Rehab N N N N WMI N N N N Bld/dsabl N N N N Tx Exmpt N N N N
Y B 909.92 Tax Due Tax Paid Date Penalty Pen.Paid Date Date Appld
96 A 793.42 793.42 5/12/97 .00 .00 0/00/00 6/03 0/00
ENTER DUP NO. Y B 793.42 793.42 11/10/97 .00 .00 0/00/00 11/13 0/00
97 A 965.59 965.59 5/11/98 .00 .00 0/00/00 5/12 0/00
Y B 965.59 965.59 11/10/98 .00 .00 0/00/00 11/18 0/00
98 A 909.92 909.92 5/10/99 .00 .00 0/00/00 5/24 0/00
Y B 909.92 .00 0/00/00 .00 .00 0/00/00 0/00 0/00
F14-C0 F15-D1 F20-SU
ENTER DUP NO. 5-NAME F7-ADDR F9-NOTES F10-PADDR F11-BK/PG F12-RTRN
    
```



Host Application Knowledge Repository



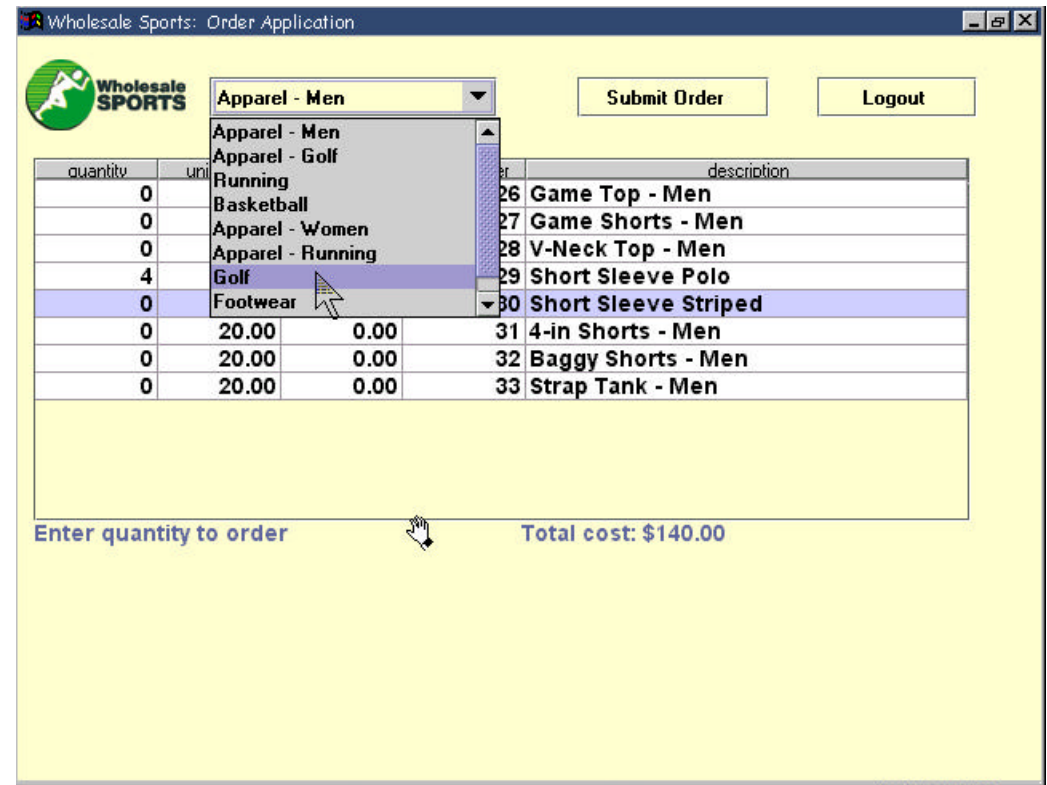
WAS



Host Applications and Business Logic to WebSphere Applications



Wholesale Sports: Order Application



quantity	unit	price	description
0			26 Game Top - Men
0			27 Game Shorts - Men
0			28 V-Neck Top - Men
4			29 Short Sleeve Polo
0			30 Short Sleeve Striped
0		20.00	31 4-in Shorts - Men
0		20.00	32 Baggy Shorts - Men
0		20.00	33 Strap Tank - Men

Enter quantity to order Total cost: \$140.00



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Maximize e-business Value

e-business Value



Host On-Demand PCOMM



- **Leverage** existing 3270, 5250 and VT applications

Screen Customizer



- **Leverage** existing 3270, 5250, and VT applications
- **Transform** business processes with application rejuvenation

Host Publisher



- **Leverage** 3270, 5250, VT, JDBC, and Java applications
- **Transform** business processes
- **Build** composite HTML applications
- Integrate with IBM WebSphere runtime environment
- Integrate with other IBM connectors

APIs, Reusable Components



- **Leverage** existing applications
- **Transform** business processes
- **Build** composite applications with multiple delivery options
- Integrate with WebSphere
- Use with VisualAge for Java or any IDE

Application Integration



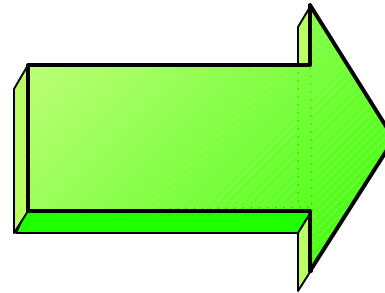


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One Stop Shopping for Emulation

Personal Communications
Host On-Demand
Screen Customizer



IBM Host Access
Client
Package

- Only complete emulation and screen rejuvenation solution in the market
- Offers convenience to migrate to Web at own pace
- Create a simple graphical user interface to a host application using drag and drop technology
- Registered user pricing



e-business software

The difference
is WebSphere.



WebSphere Host Integration Solution Offering

Host On-Demand
Personal Communications
Screen Customizer



Host Publisher

Communications Server

WebSphere Application Server
Advanced Edition

WebSphere Studio Prof. Edition

- ✓ Provides clear migration path as customers grow their e-business
- ✓ Simplifies creation and deployment of advanced e-business applications
- ✓ Leverages features of WebSphere software platform to enable customers to respond quickly to new market needs

Business Value....and Benefits

- Enhanced competitiveness by extending information and services to new & existing users
 - Build on existing application logic and data
 - "Webify" without coding - No application rewrite
 - Results:
 - Improved responsiveness, more timely information
 - Employee driven apps become self service apps
- Solve today's business problems with yesterday's application
 - Build composite applications from existing data sources
 - Results
 - Quick implementation
 - Immediate ROI
- Improve employee productivity
 - Modernize and streamline existing applications with a simple graphical user interface
 - Results
 - Lower training costs
 - Lower help desk support costs
 - Reduce error rates and speed data entry



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Other Sessions...

- **WebSphere Host Publisher Implementation**
 - Mon 8:45am RM104 PH209013
- **WebSphere Host On-Demand Administration**
 - Tues 4:30pm RM308 E209211
- **Designing an Application using WebSphere Host Publisher**
 - Wed 4:30pm RM 311 E211211
- **Extending the Reach of Data with WebSphere Transcoding Publisher**
 - Tues 2:45pm RM 309 E211021
- **Extend your Website for Handheld Device Clients with WebSphere Transcoding Publisher**
 - Tues 10:15am RM 101 H208911
 - Wed 10:15am RM 101 H208921



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Resources for Host Integration

Web Sites and Product Information

- IBM WebSphere Host Integration
 - <http://www.ibm.com/software/webservers/hostintegration>
- IBM Host Access Client
 - <http://www.ibm.com/software/network/hostaccess>
- IBM Personal Communications
 - <http://www.ibm.com/software/network/pcomm>
- IBM WebSphere Host On-Demand
 - <http://www.ibm.com/software/webservers/hostondemand>
- IBM Screen Customizer
 - <http://www.ibm.com/software/network/screencustomizer>
- IBM WebSphere Host Publisher
 - <http://www.ibm.com/software/webservers/hostpublisher>
- IBM WebSphere Host Integration - Customer Comments
 - http://www-4.ibm.com/software/webservers/hi_customers
- IBM WebSphere Host Integration - Business Partners
 - http://www-4.ibm.com/software/webservers/hi_partners
- IBM WebSphere Host Integration - Case Studies
 - http://www-4.ibm.com/software/webservers/hi_casestudies

Redbooks

- IBM WebSphere Host On-Demand (SG24-2149)
- IBM Web-to-Host Integration Solutions (SG24-5237)
- IBM WebSphere Host Publisher (SG24-5385)

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- * WebSphere
- * WebSphere Commerce Suite
- * IBM
- * OS/400
- * Host Publisher
- * MQ Series
- * VisualAge
- * VisualAge Java
- * Host On-Demand
- * Screen Customizer
- * iSeries

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Supplemental Charts



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Host Integration Development Options

- Host Access Beans for Java
 - Allows drop in emulation function and simple interface to programming host interactions
- Host Access Class Library
 - Modern, object based API for host communication
- HOD Connector
 - Common Connector Framework compliant form of HACL technology
- Host Publisher
 - Accelerate integration of host applications by capturing host application information in a Java Bean for easy integration into WebSphere/VAJ development projects



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Common Host Access APIs

- Provide common Java programming interface across emulator products
 - Host Access Class Library for Java
 - Host Access Beans for Java
- Easily transfer skill base from one product to the other
- Reuse Java applications written for one product on the other





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IBM Host Access Beans for Java

Host On-Demand moves beyond terminal emulation...with Host Access Beans

- Rapidly create and deploy new host access applications to meet your specific business needs
 - Open architecture allows for flexible/portable deployment using any TN server

- Lower your cost of development
 - Allows drop in emulation function and simple interface to programming host interactions

EHLLAPI vs. HACL

```

int OpenReaderList ( void )
{
    int      Hfunc, Hlen, RC;
    char     tmp[256];

    // Assume Session A is open and at a Ready; prompt in VM
    // Connect to PS
    strcpy(tmp, "A");
    Hlen = strlen(tmp);
    RC = 0;
    Hfunc = HA_CONNECT_PS;
    hllapi(&Hfunc, tmp, &Hlen, &RC);
    if (RC!=0) {
        sprintf(tmp, "EHLLAPI RC=%u", RC);
        MessageBox(NULL, tmp, "CONNECT_PS Failed");
        return -1;
    }

    // Send Keys
    strcpy(tmp, "rdrist@E");
    Hlen = strlen(tmp);
    RC = 0;
    Hfunc = HA_SENDKEY;
    hllapi(&Hfunc, tmp, &Hlen, &RC);
    if (RC!=0) {
        sprintf(tmp, "EHLLAPI RC=%u", RC);
        MessageBox(NULL, tmp, "SENDKEY Failed");
        return -1;
    }

    // Disconnect from PS
    strcpy(tmp, "A");
    Hlen = strlen(tmp);
    RC = 0;
    Hfunc = HA_DISCONNECT_PS;
    hllapi(&Hfunc, tmp, &Hlen, &RC);
    if (RC!=0) {
        sprintf(tmp, "EHLLAPI RC=%u", RC);
        MessageBox(NULL, tmp, "DISCONNECT_PS Failed");
        return -1;
    }
    return 0;
}

```

```

int OpenReaderList ( void )
{
    // Assume Session A is open and at a Ready; prompt in VM

    try {
        // Create a PS object for session A and send the command
        ECLPS PS( 'A' );
        PS.SendKeys( "rdrist[enter]" );
    }

    catch ( ECLerr Err ) {
        // Report any errors using Message Box
        char ErrText[256];
        strcpy( ErrText, Err.GetMsgText() );
        MessageBox( NULL, ErrText, "Send Keys Failed" );
        return -1;
    }
    return 0;
}

```



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Why use the Host Access Class Library for Java?

- Modern, object based API for host communication
- Single "presentation space" for 3270, 5250, VT sessions
- Provides lower level access to the data stream





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Host Access Class Library Information

- Host Access Class Library for Java online reference:
 - www.ibm.com/webservers/hostondemand/library/publications/hacl.html
- Host Access Class Library website:
 - www.ibm.com/webservers/technology/hacl





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Host Access Beans for Java



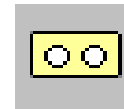
Terminal



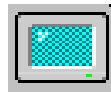
KeyRemap



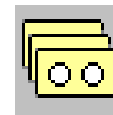
Session



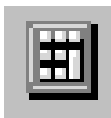
Macro



Screen



MacroManager



Keypad

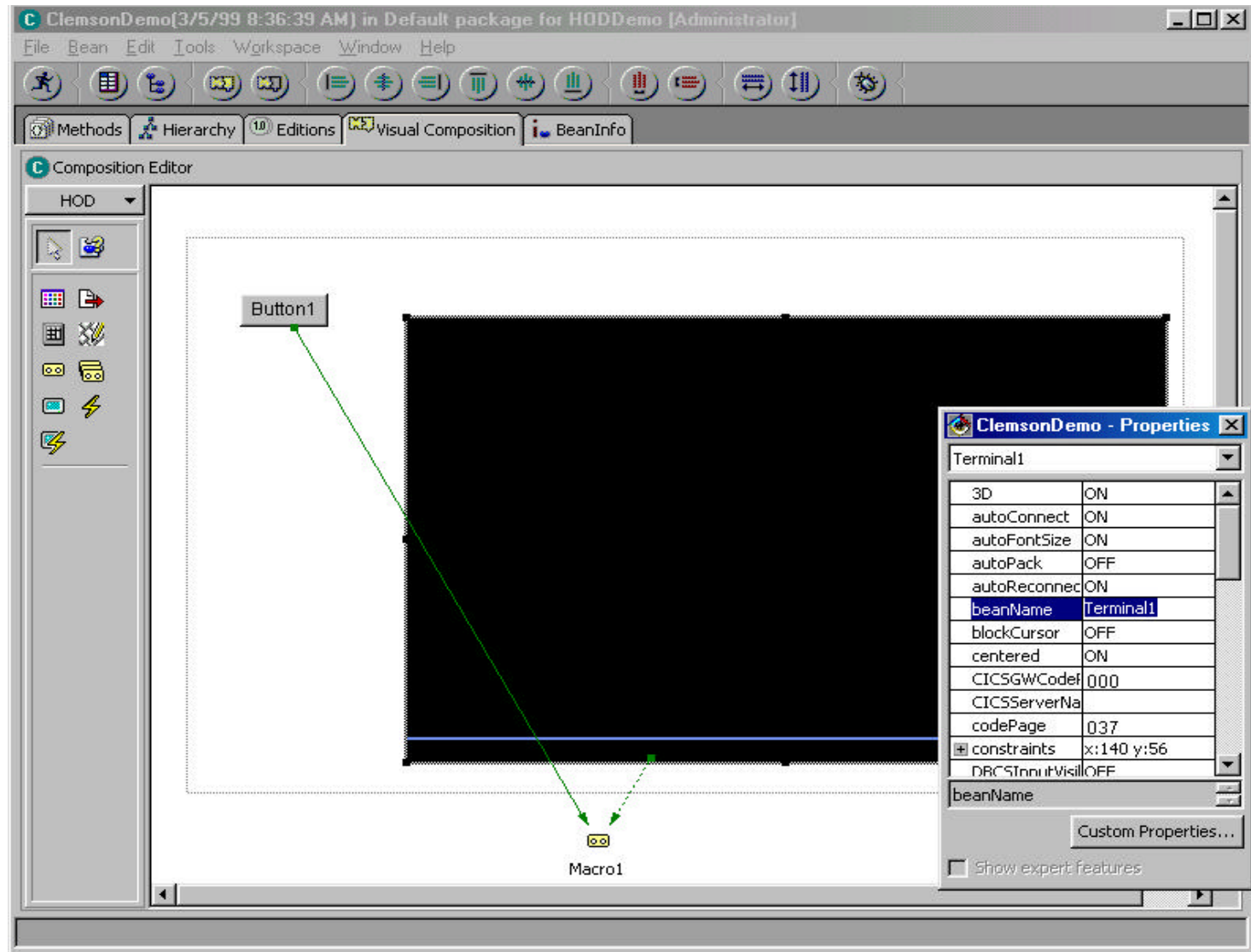


FileTransfer



ColorRemap

VisualAge JavaBeans





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Terminal JavaBean



- Visual Bean
 - Drop onto a frame to get a visual representation of an emulator session (...a "green screen")
- Composite Bean:
 - Combines a Screen and Session Bean
 - Provides both the graphical and connection functions of a host session
 - All the "wiring" is done for you
 - Simple "drop and go" terminal emulator

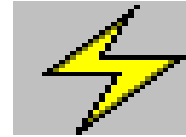


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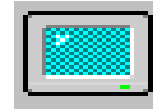
Session JavaBean



- Non-visual bean
- Provides methods and properties for setting up communications with a host system
- Methods for sending data to host
- Generates events that allow listeners to be notified of:
 - presentation space (screen) updates
 - operator information area (OIA) changes
 - communication status changes (disconnect/connect)



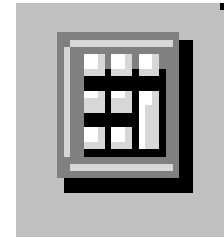
Screen JavaBean



- Visual bean
 - Provides a graphical interface for displaying host data from a Session bean.
 - "Green Screen"
 - OIA status line
- Listens to presentation space, OIA, and GUI events generated by the Session bean
- Generates keystroke events to registered listeners
- Provides the clipboard cut, copy, and paste functions.



Keypad JavaBean



- Visual bean
- Provides a simple grid of buttons which invoke host functions
 - PF1-24
 - PA1, PA2
 - Attn
 - SysReq
 - and others.....



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KeyRemap JavaBean



- Visual bean
- Provides keyboard remap capability
 - keystrokes can be mapped to alternate characters or directly to host functions.
 - Ex: Esc > Clear

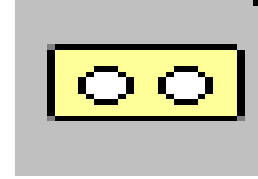


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IBM

Macro JavaBean



- Non-visual bean
- Record and play a macro
 - Macro employs advanced screen recognition technology to reliably navigate host applications in any environment.
 - Macro also provides the ability to prompt for user input and extract text from the screen during playback.

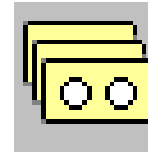


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MacroManager JavaBean



- Visual bean
- Provides a toolbar interface for managing multiple macros
- Macro list functions allow you to:
 - record,
 - play,
 - load,
 - delete
 - and edit multiple macros.

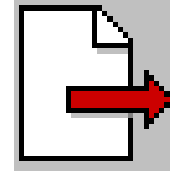


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FileTransfer JavaBean



- Visual bean
- Provides a toolbar interface for transferring files to and from a host
 - Modify transfer options based on host type and file type

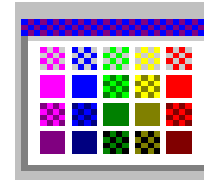


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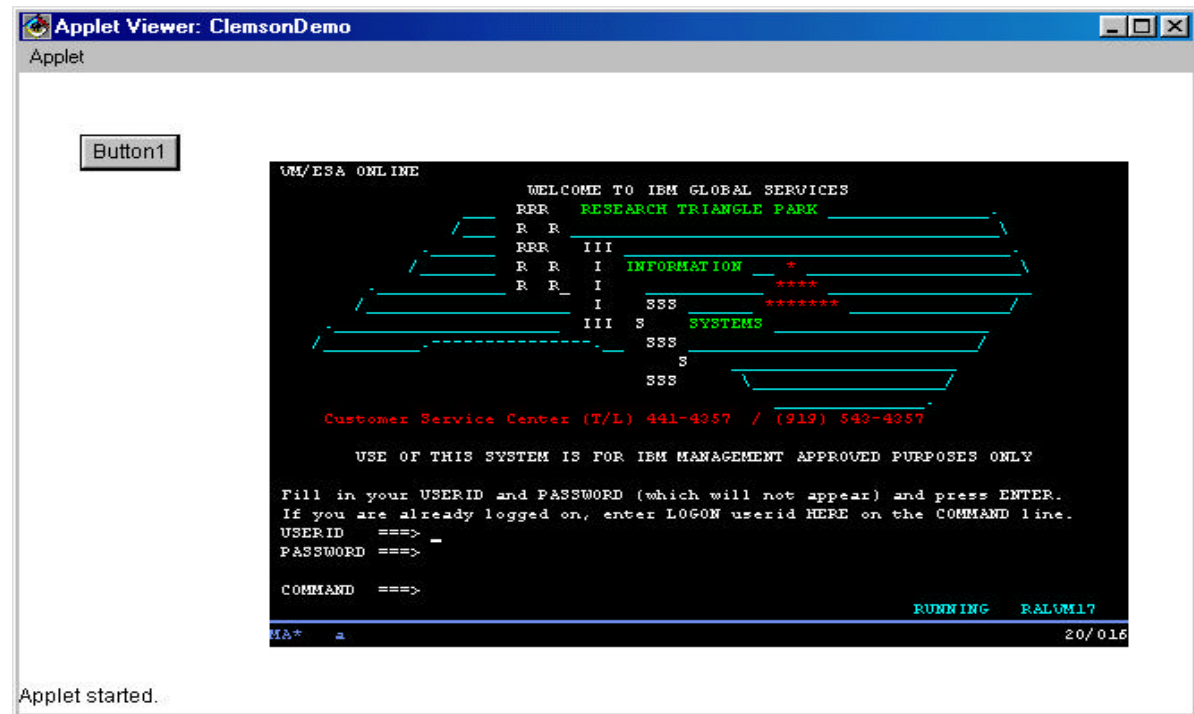
ColorRemap JavaBean



- Visual bean (Host On-Demand only)
- Provides an interface for modifying the colors displayed by the Screen or Terminal beans

More Host Access Beans for Java Information...

- Host Access Beans for Java online reference:
 - www.software.ibm.com/network/hostondemand/library/publications/beans.html



Applet started.