



IBM Software Group

IBM Host Access Transformation Services (HATS) Version 7.0

Overview and What's New

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Topics

- What is HATS and what value does it provide?
 - Overview of tooling (what a developer sees)
 - Overview of runtime (what an end user sees)
- What is new with Version 7
- How does HATS work with the Eclipse Rich Client Platform ?
- What kind of skills do I need for HATS
- How can I get more information?

Value of Existing Applications

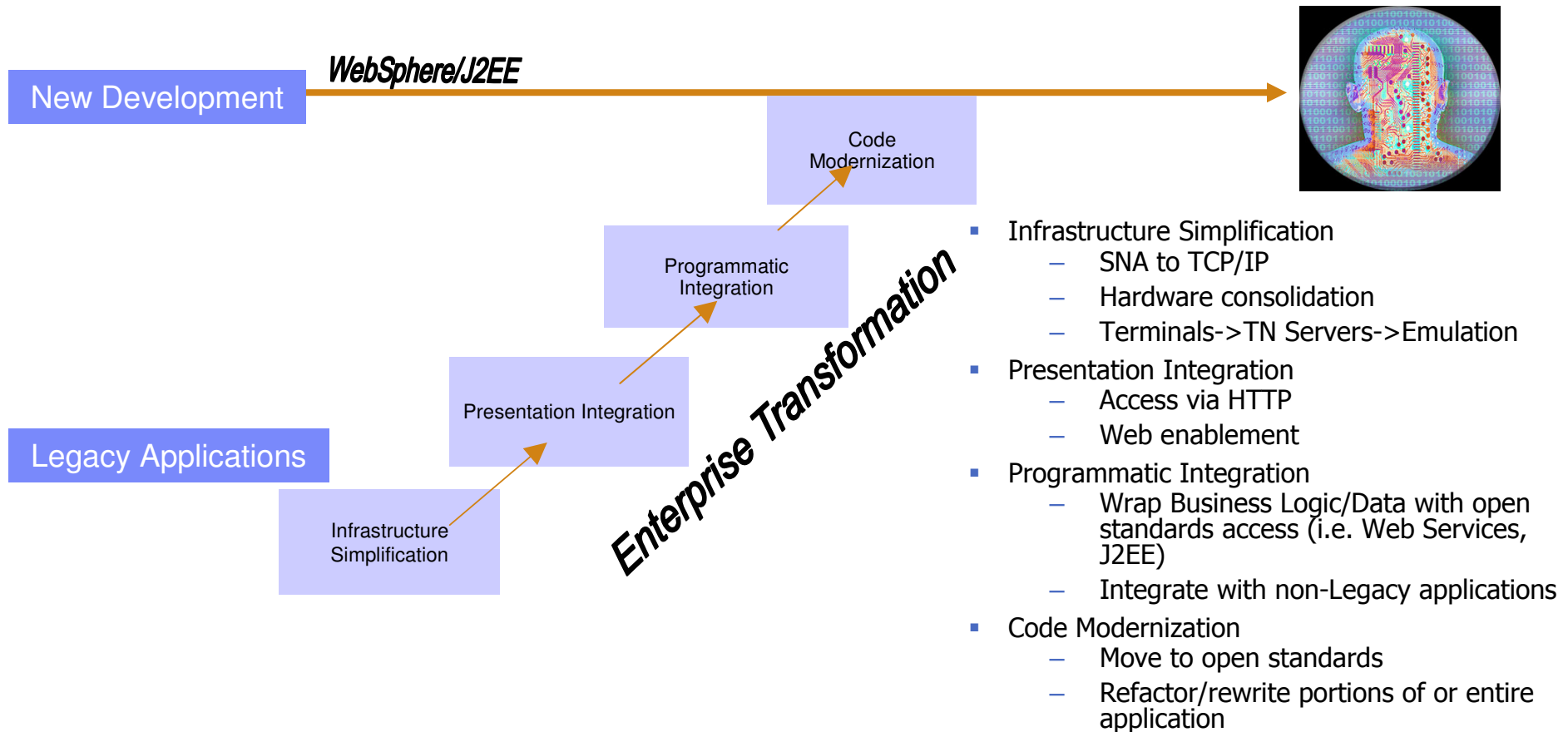
- Existing applications are among the most valuable assets a company owns
 - Fully functional applications that run the business today
 - Significant investments over the years
 - Fine-tuned for dependable optimal performance
 - Run within fine-tuned reliable, robust, scalable IT infrastructure and platforms
- Accessed via character / text based terminals
 - Non-intuitive, difficult to navigate user interfaces
 - Difficult to integrate in modern business processes



Challenges and Customer Requirements

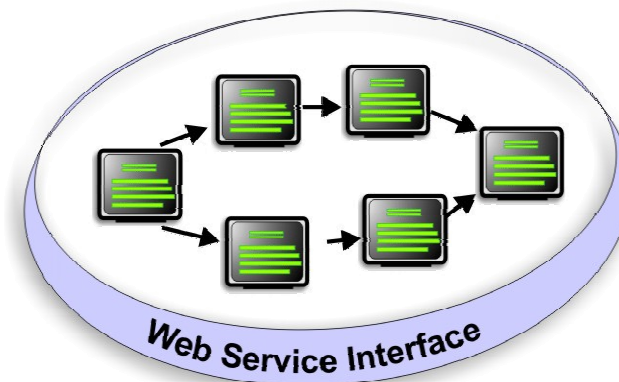
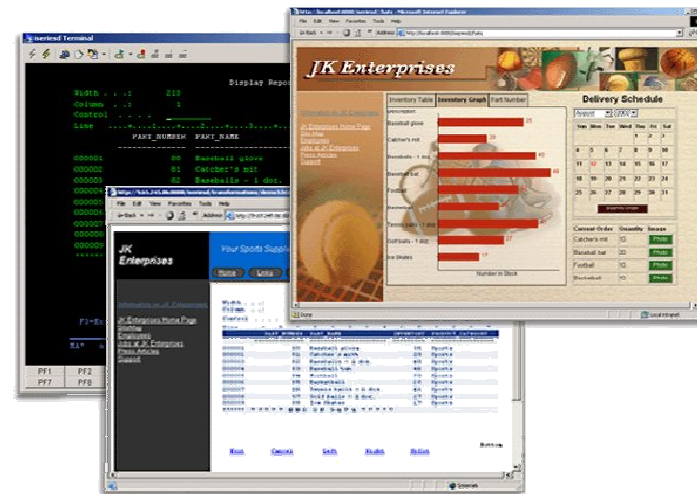
- Improve the appearance of user interfaces
 - Shorten learning curve for newer employees
 - Extend to new departments, new business partners, new end-user customers, who require an easy-to-use interface
- Improve employee productivity by streamlining application flow
 - Automate where appropriate - eliminate unnecessary keystrokes and screen navigations
 - Customize access for a specific set of users

View of Enterprise Transformation



What is Host Access Transformation Services (HATS)?

- HATS provides tools needed to quickly and easily create Web, portal or rich client applications that provide an easy-to-use GUI for your 3270 and 5250 applications
 - Automatic transformation
 - Low skills requirement
 - Rules-based
 - Highly customizable
 - Iterative development process
- Extends terminal application tasks as Web Services



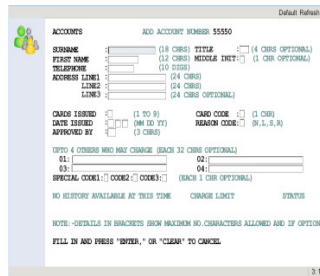
Host Access Transformation Services

- Modernize and streamline "green screen" applications
- Combine data from multiple screens, applications and databases
- Non-invasive (no host application changes required)



3270 or 5250
Data stream

Rich Client



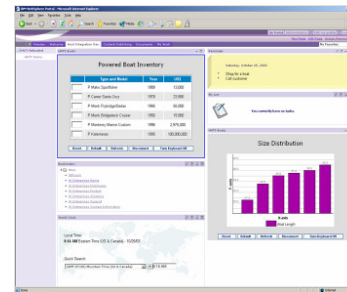
- Integration at the desktop with other Eclipse applications
- Client side processing
- Rich set of user interface widgets
- Built on the standard, open Eclipse foundation
- 3270e print directly to end user's printer

Web Service



- Build self-service transactions

Portal



- Integration at the glass
- Click-to-Action support

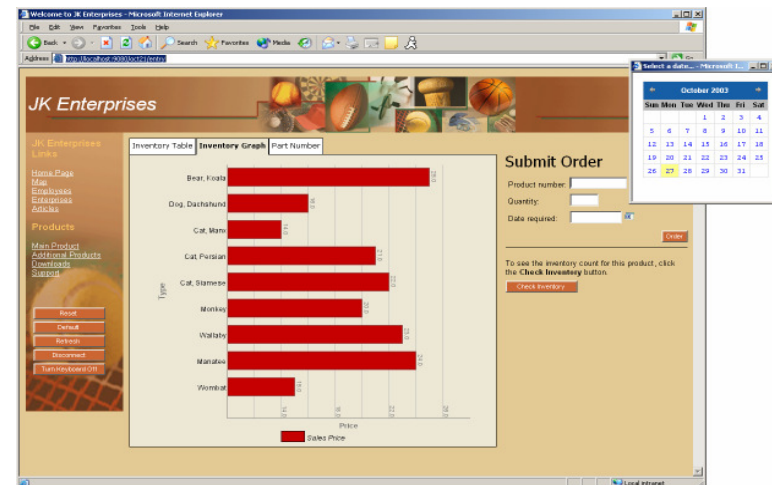
Web



- Zero footprint
- View through your favorite browser

Improve Navigation & Productivity

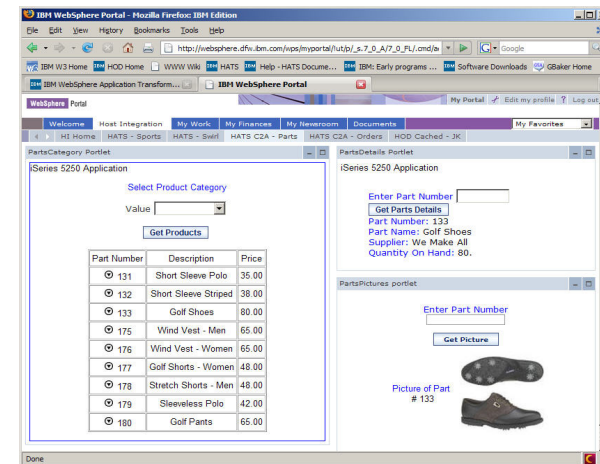
- **Macros & Global Variables**
 - Skip unnecessary screens; combine screens; split screens, enter data on behalf of the end user
 - Store end user input as global variables to use again; prefill text entry fields
- **Improve User Interface with Screen Customization**
 - Add buttons, hot links, drop-down menus, valid value lists, etc.
 - Modify graphics, fonts, colors, and layout
- **Add business logic**
- **Local print support**
- **Native keyboard support**
- **Security – HTTPS, SSL**
- **Performance – HTTP Compression, Contention Resolution**
- **Supports iterative development**
 - Default Transformation rules - fully functional HATS application on the Web quickly
 - Customize Default Transformation rules
 - Customize screens



Industry-Standard Architecture

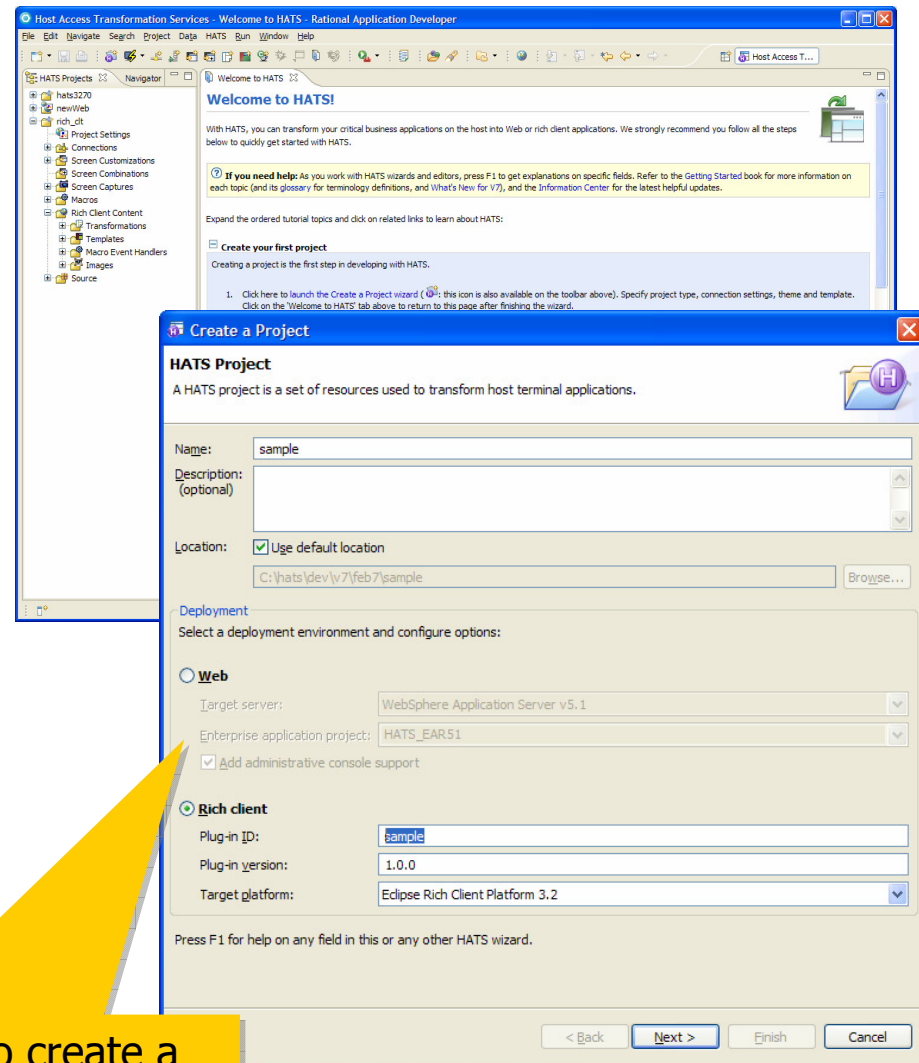
- IBM Rational Software Delivery Platform Tool
 - HATS Toolkit is an Eclipse plug-in to the IBM Rational Software Delivery Platform Tool
 - Wizard based
 - Creates HATS applications
- WebSphere Application Server, WebSphere Portal Server
 - HATS leverages WebSphere Application Server (WAS) or WebSphere Portal Server at runtime
 - HATS Toolkit creates J2EE .war and .ear files for deployment
 - HATS runtime is contained in the HATS application
- Lotus Expeditor, Eclipse Rich Client
 - Open, standards-based platform

Building the technical embedded software that controls devices



Using the HATS Toolkit for HATS Development

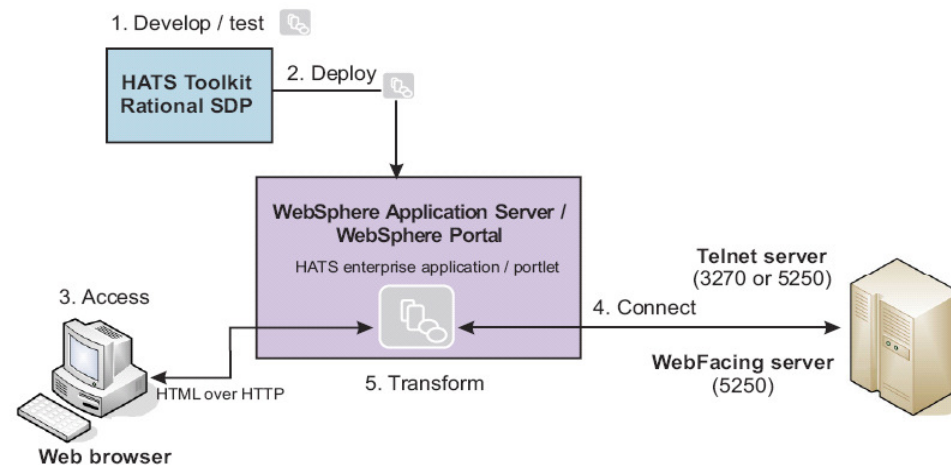
- HATS Toolkit is used to create Web, Portlet, or rich-client projects.
- Use familiar HATS development concepts for building RCP applications.
- Use your favorite HATS features for rich client applications:
 - Default transformation
 - Global Rules
 - Screen customizations and transformations
 - Macros and global variables
 - Business logic
- Transformations are designed visually using the Eclipse Java Visual Editor.
- Further customization options
 - Custom HATS SWT Widgets
 - Ability to link standard SWT controls with host keys, host input fields, or macros
- HATS RCP projects are Eclipse plug-in projects.



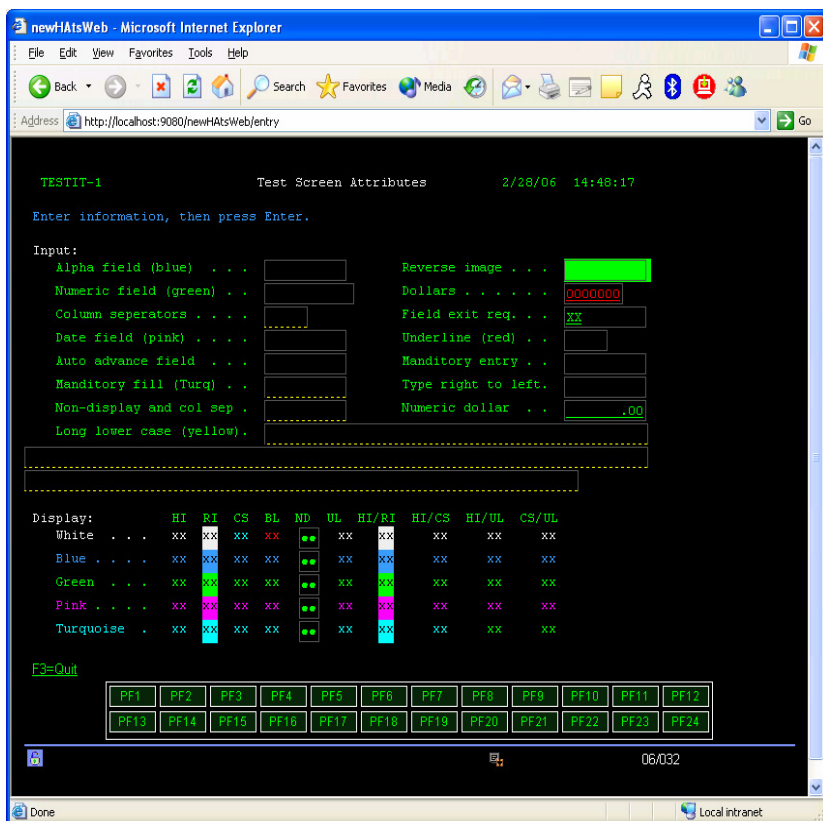
Developer chooses whether to create a Web, portlet, or RCP project

Creating a HATS Web Application

1. The developer uses the HATS Toolkit to develop and test a HATS Web application.
2. When ready, the developer deploys the HATS application by exporting it as a J2EE application and installing and running it on a WebSphere Application Server system.
3. Using a Web browser, the user accesses the HATS application.
4. The HATS runtime connects to the target host system through either a Telnet or a WebFacing server.
5. As the user interacts with the host through the HATS application, the HATS runtime transforms host screens to a GUI.



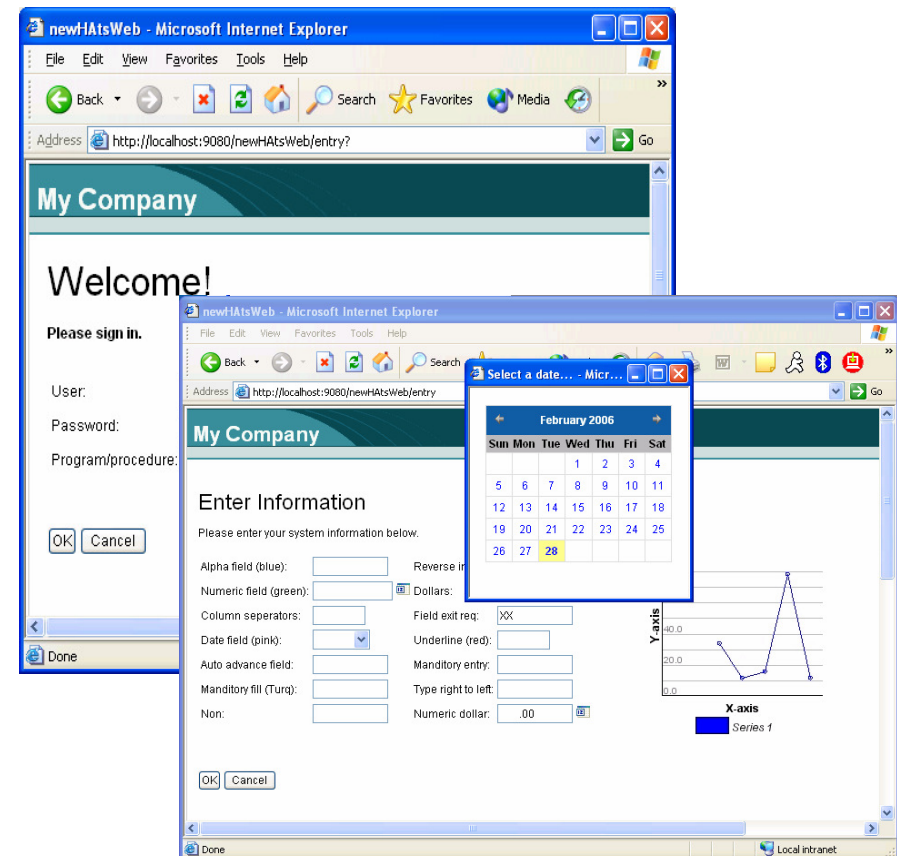
Achieving a Green-Screen Look with HATS



- HATS supports host colors and extended field attributes, including:
 - Numeric only, alphabetic only, signed numeric, reverse image, column separator, underline, and blink fields
- Supports automatic field advance
- Support for field exit, field plus, field minus (5250 only)
- Host keypad and OIA can be displayed (and positioned anywhere)
- Native keyboard support (i.e. pressing F12 in the browser sends F12 to the host application).

Achieving a Modern Look with HATS

- Individual screens can be customized with a rich set of user controls, including:
 - Popup lists, drop-downs, checkboxes, lists, radio buttons, calendar popups, graphs, etc.
- Information from the host screen can be suppressed on the Web page and a screen can be split up over multiple Web pages.
- Functions / actions can be restricted.
- Information can be displayed and organized in tabs.
- One customized Web page can be applied to more than 1 host screen!



HATS Default Rendering

My Company

My Company Slogan

First Link

Second Link

Third Link

Fourth Link

My Company Links

[My Company Home Page](#)

[My Company Map](#)

[My Company Employees](#)

[Jobs at My Company](#)

[My Company Articles](#)

My Products

[Main Product](#)

[Additional Products](#)

[Downloads](#)

[Support](#)

MAIN i5/OS Main Menu System: ELCRTP68

Select one of the following:

- [1. User tasks](#)
- [2. Office tasks](#)
- [3. General system tasks](#)
- [4. Files, libraries, and folders](#)
- [5. Programming](#)
- [6. Communications](#)
- [7. Define or change the system](#)
- [8. Problem handling](#)
- [9. Display a menu](#)
- [10. Information Assistant options](#)
- [11. iSeries Access tasks](#)

90. Sign off

Selection or command

====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F13=Information Assistant
F23=Set initial menu

Reset

Default

Refresh

Disconnect

Turn Keyboard Off

HATS Customized Transformation

JK Enterprises Links

- Home Page
- Map
- Employees
- Enterprises
- Articles

Products

- Main Product
- Additional Products
- Downloads
- Support

Buttons: Reset, Default, Refresh, Disconnect, Turn Keyboard Off

Inventory Graph

Type	Sales Price
Bear, Koala	25.0
Dog, Dachshund	18.0
Cat, Manx	14.0
Cat, Persian	21.0
Cat, Siamese	22.0
Monkey	20.0
Wallaby	23.0
Manatee	24.0
Wombat	15.0

Submit Order

Product number:

Quantity:

Date required:

To see the inventory count for this product, click the **Check Inventory** button.

Select a date... - Microsoft Internet Explorer

October 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

HATS Global Rules and Valid Value Lists

JK Enterprises

Search Request

To request a search, type the search data and press E

Corporate and Personal Directories

Name

Birthdate 01/22/1979

Node

User ID

Extension

Job Responsibilities

Location

*any field (Name Value)

*any field (Name Value)

Enter command:

United States
Japan
Germany
Australia
United Kingdom
Canada
Italy
France

January 1979

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

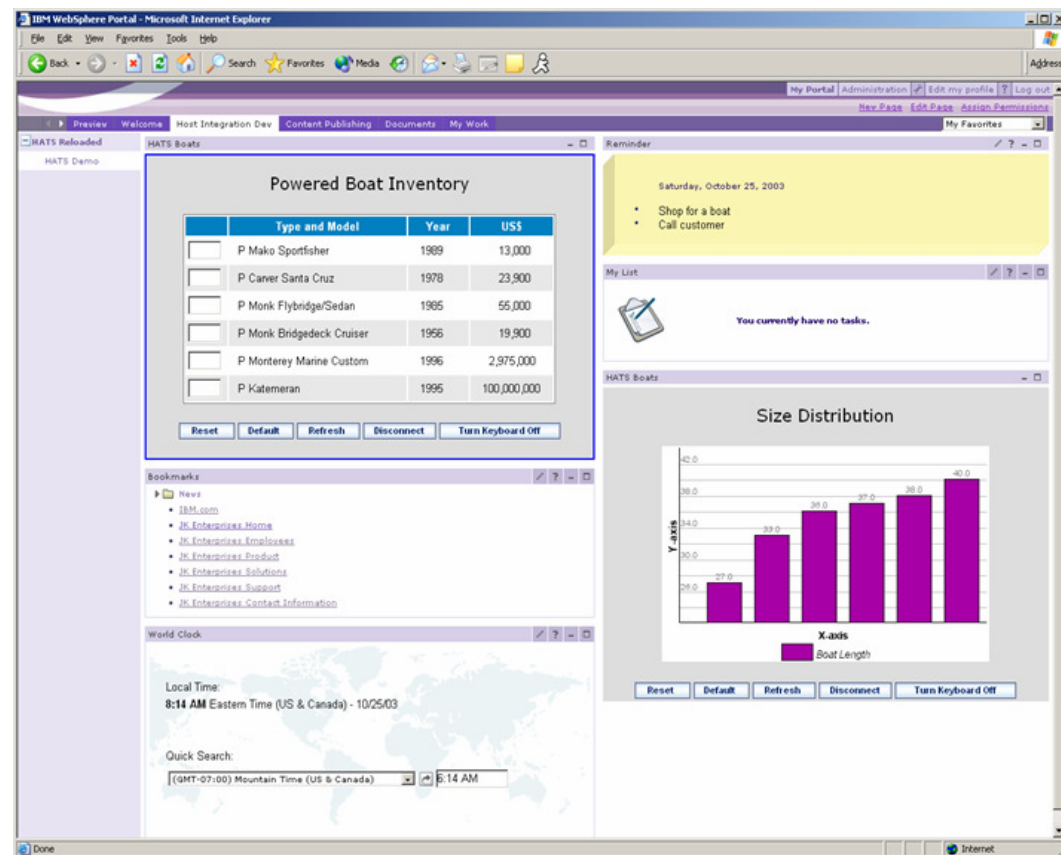
Reset
Default
Refresh
Disconnect
Turn Keyboard Off

Help | Set 2 | Exit | Profile | Refresh | Fuzzy | Forward | Command | Actions | Dist list | Cancel

Done Local intranet

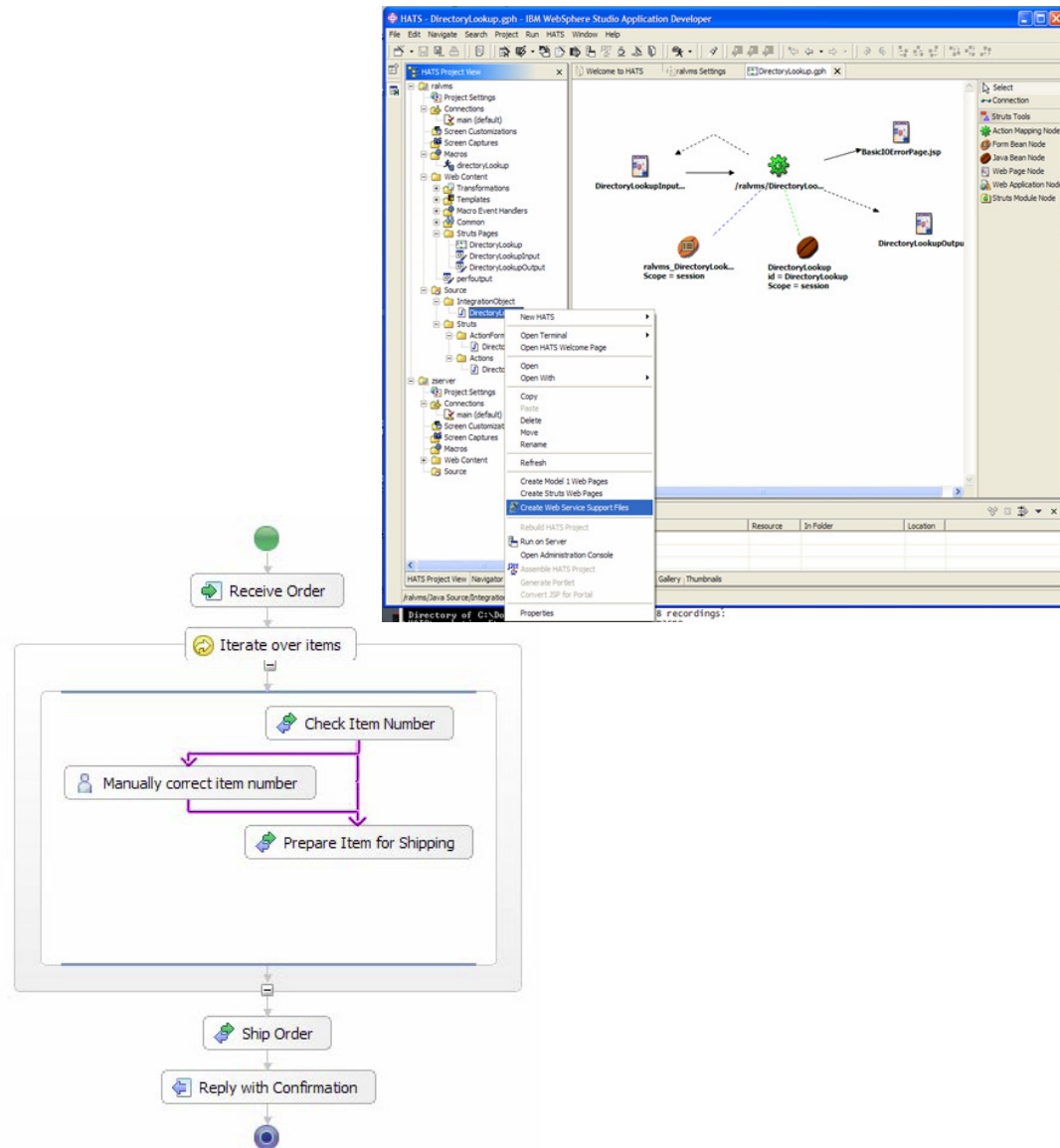
HATS Integration with WebSphere Portal

- One step wizard to generate WebSphere Portal compatible portlets.
 - HATS provides an open, flexible environment for creation of host portlets
- HATS supports:
 - Click-to-Action
 - Cooperative Portlets
 - Credential Vault
 - Single Sign-On
- HATS is ideal for use with portals because screens can be customized to reduce the amount of data displayed
- Multiple HATS portlets can be added to the same page.

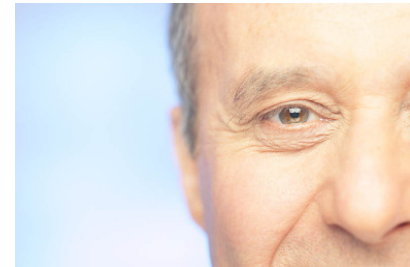


Application to Application Integration

- Create Web Services from programmed interaction of one or more host applications.
 - Generate Java Beans and EJBs from macros that navigate host applications
 - Use IBM Rational Software Development Platform to add SOAP and WSDL components
- Supports session pooling
 - Create cached, logged-on, ready to use host connections
- Generate Struts and Java Server Faces (JSF) Web applications.
 - HATS participates in the Business Process
 - insert an automated HATS Web service in your business process



Recommended Skills



- The HATS Toolkit is an integrated environment for building HATS applications – as with all tools, skills are developed over time. Ease-of-use has been a driving design goal since the first release (and was the theme for HATS version 6).
- HATS does not require Java skills, except for advanced integration (e.g. interacting with a database using JDBC) or when writing custom components and widgets.
- **For Web application development:** although HATS is integrated into the Page Designer (HTML editor) tool, HTML / Web skills are recommended when doing advanced screen customization.
- **For rich client application development:** Java and Eclipse/SWT skills are recommended for doing advanced screen customization and integration with other Eclipse and desktop-based applications.
- **The good news :** the skills required for advanced HATS development are **reusable** because HATS utilizes industry standard technologies (J2EE, Java, JSP, JavaScript, XML, HTML, CSS, Eclipse, SWT, etc).

HATS Benefits

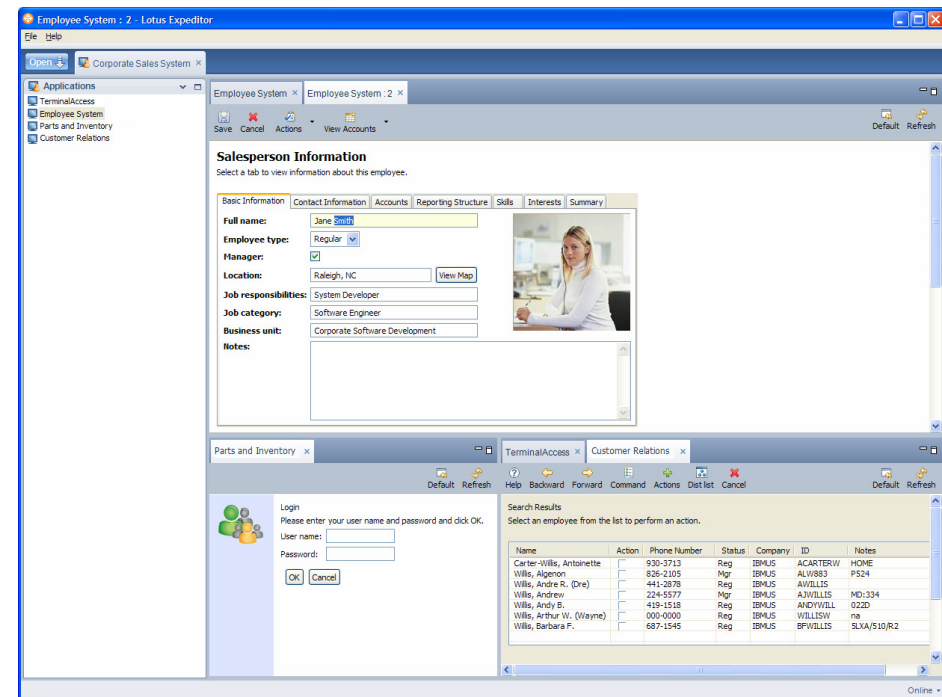
- Increases productivity and reduces training costs as it extends host applications to the widest possible audience...
 - Improving work flow from multiple applications
 - Presenting host screens in a more intuitive GUI format
 - HATS has built-in **SSO support**, which allows users to securely logon to multiple host systems while presenting credentials only once
 - Works in conjunction with existing network security applications, such as Tivoli Access Manager
 - Retrieves network security credentials and maps to host credentials
- Quick ROI - Host applications can be quickly deployed
 - Screens quickly converted to GUIs according to HATS default rules
 - Further customization added as time and resources permit
 - Low cost, no need to rewrite application
- Low risk – Leverage Open, Proven Platforms
 - Development
 - Leverages the Eclipse-based open standards of the IBM Rational Software Delivery Platform tools
 - Web deployment
 - HATS leverages the security, reliability, and scalability of the WebSphere Application Server and WebSphere Portal Server
 - Rich client deployment
 - Lotus Expeditor and Eclipse Rich Client

What's New in HATS 7.0

- Rich client deployment of HATS applications
 - HATS runs on the desktop, not on a server (WebSphere Application Server is not required)
- Combine and interact with multiple screens of data
- Improved developer experience
- Screen transformation
 - More options for populating a new transformation (a transformation is responsible for rendering a screen)
 - Global rule enhancements (including screen-level global rule configuration)
 - New component and widget settings
 - New Table component
 - New Subfile rendering options
- Host Simulator tool integration (aids in offline development)
- 3270E print support enhancements, including direct-to-printer printing
- Integration with WebFacing (iSeries)

HATS Rich Client Overview

- Extends host applications to the desktop. Applications run on:
 - Eclipse RCP 3.2 (or any Eclipse-based environment)
 - IBM Lotus Expeditor Client 6.1
- Provide a modern GUI interface to mission critical green screen applications.
- Processing occurs on the desktop – no WebSphere Application Server required!
- Provides the capability to integrate host access applications with other applications on the desktop.
- Alternative to traditional terminal emulator products.
- Targeted at internal users in a controlled environment.

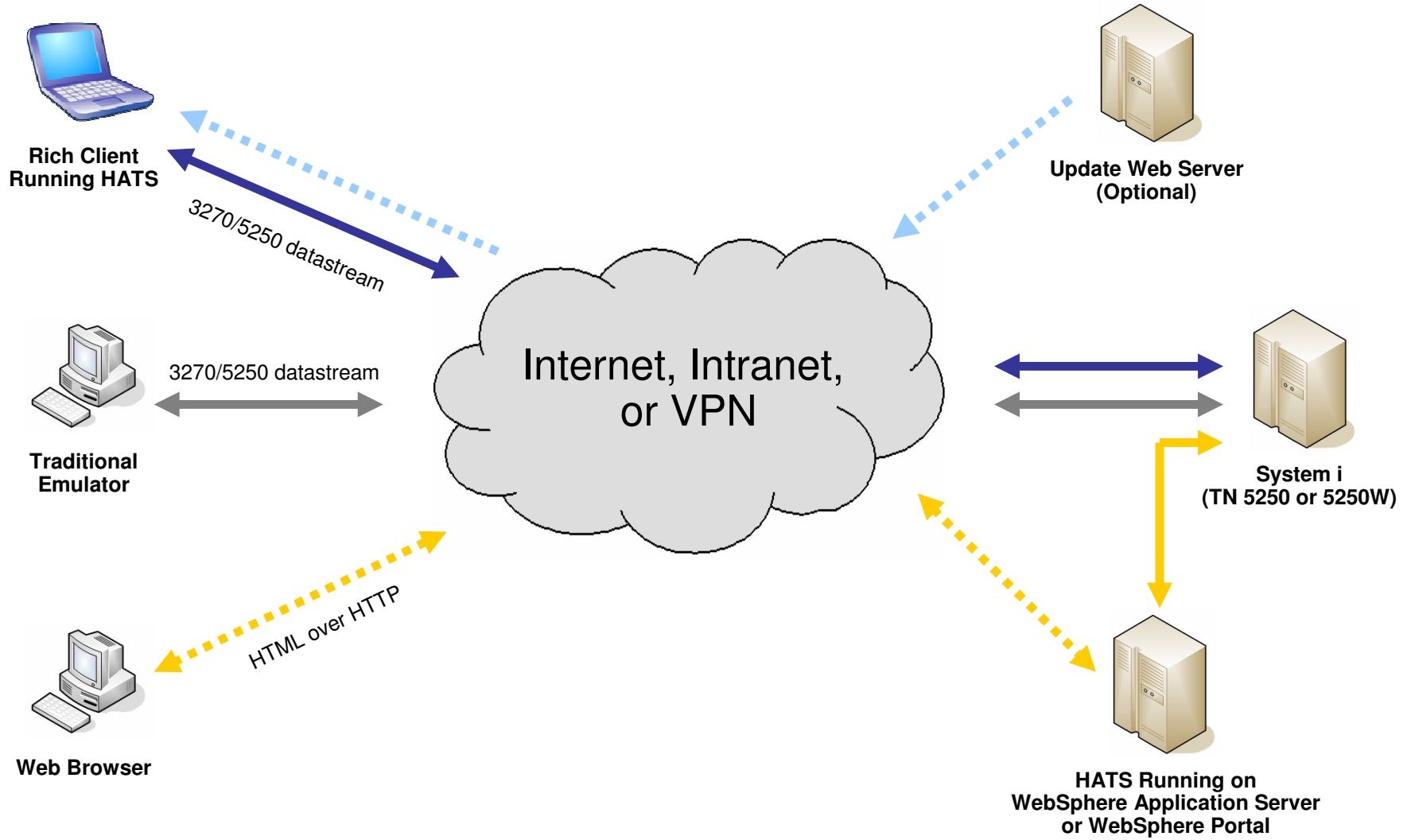


Comparing HATS Rich Client to Traditional Emulators

- What are the advantages of HATS RCP over a traditional “fat client” emulator?
 - Instant productivity improvements for end users (e.g. automatic conversion of function keys into clickable toolbar buttons)
 - Information integration - multiple sources of information can be integrated and presented to the end user (increased productivity / less switching)
 - Platform support for automatic installation and updates
 - Platform independence (same HATS application can run on Windows and Linux)
 - Provides more control over what an end user can do
 - More attractive and usable to users not accustomed to a “green screen” or a terminal emulator.
- Why is this important?
 - Allows you to continue using your proven, reliable terminal applications without costly rewrites, code changes, or major disruption.

Environment Comparison

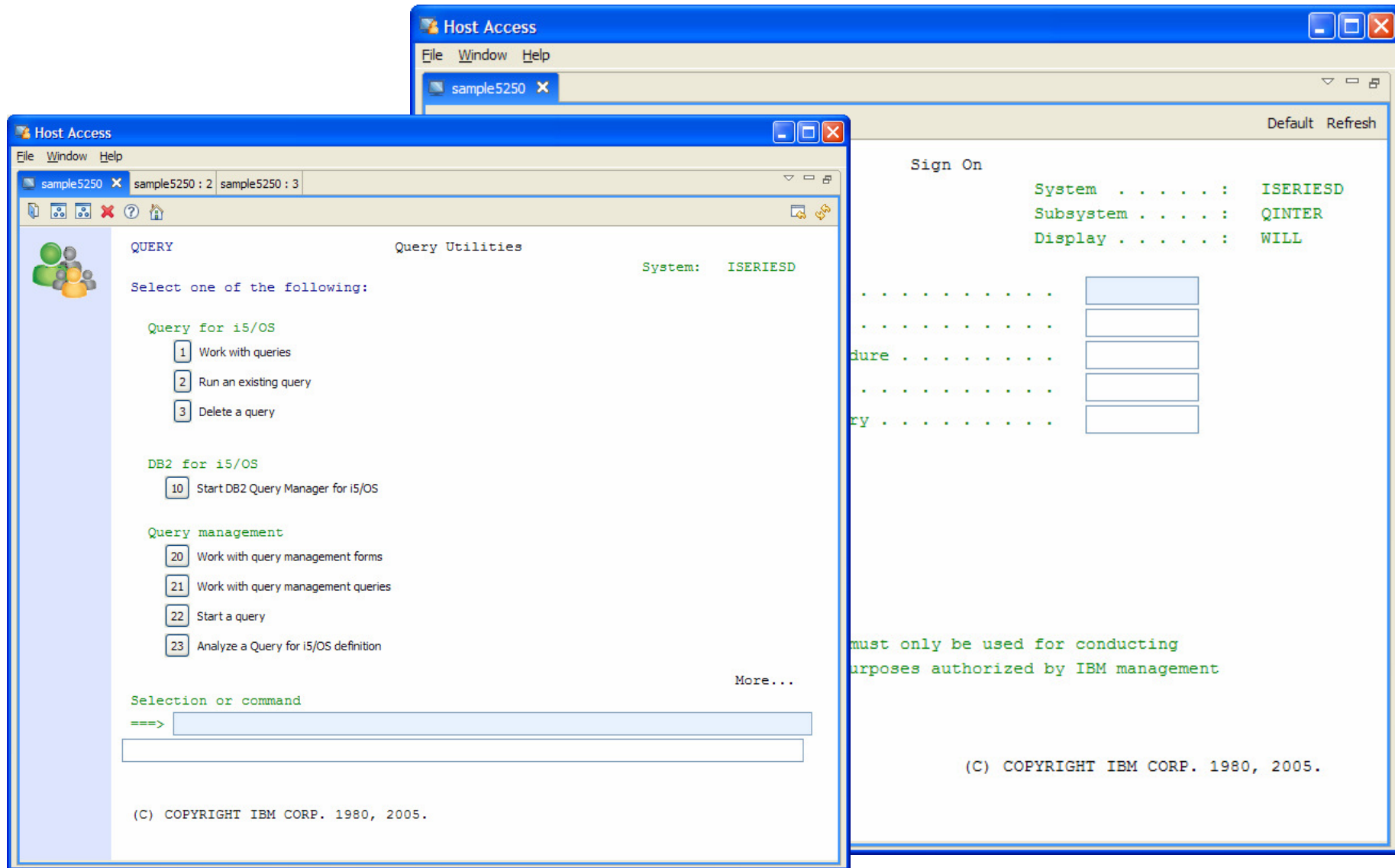
Persistent
Non-persistent



Comparing HATS Rich Client to HATS Web

- What are the differences of HATS RCP over HATS Web?
 - Integration at the desktop with other applications
 - Client side processing (no server bottlenecks) – no server required
 - Better response time (good for slow speed links)
 - Less network traffic
 - Rich set of user interface (UI) widgets
 - 3270e print directly to end user's printer
- HATS RCP is primarily targeted at internal users who need integration with other desktop applications or are looking for responses times more similar to that of a traditional emulator.

Default Rendering (Rich Client)



Customizing a Screen (Rich Client)

Customized HATS transformation

The screenshot displays the Host Access interface. On the left, a terminal window titled 'main (my3270app.hhs) - Host Terminal' shows the original host screen with text and function key definitions. On the right, the 'Host Access' application window shows a 'my3270app' session with a 'Search Results' screen. A dialog box titled 'my3270app' is open, allowing the user to select an action for a chosen employee.

Name	Action	Phone Number
Carter-Willis, Antoinette	<input type="checkbox"/> ...	930-3713
Willis, Algenon	<input type="checkbox"/> ...	826-2105
Willis, Andre R. (Dre)	<input type="checkbox"/> ...	441-2878
Willis, Andrew	<input type="checkbox"/> ...	224-5577
Willis, Andy B.	<input type="checkbox"/> ...	419-1518
Willis, Arthur W. (Way...	<input type="checkbox"/> ...	000-0000
Willis, Barbara F.	<input type="checkbox"/> ...	687-1545

Dialog Box Options:

- Address
- Backup
- Department
- Feedback
- Show
- Job Responsibility**
- Calendar
- Update
- Phone Numbers
- Reports To
- View Record

Original host screen

Application Integration (Rich Client)

The screenshot displays the Lotus Expeditor interface with two overlapping windows. The background window is titled "Order Status - Lotus Expeditor" and contains a "Submit Order" form. The foreground window is titled "Employee System" and displays "Salesperson Info" for Jane Smith. A large green arrow points from the "Salesperson Info" window to the "Submit Order" form, indicating data integration.

Order Status - Lotus Expeditor (Background Window):

- Customer: SpeedyMarket
- Product: Cases
- Cans: 0
- Bottles: 0
- Submit button

Employee System (Foreground Window):

Salesperson Info

Select a tab to view information: SpeedyMarket, Marine Mart, Quick Stop

Basic Information

- Full name: Jane Smith
- Employee type: Regular
- Manager:
- Location: Raleigh, NC (View Map)
- Job responsibilities: System Developer
- Job category: Software Engineer
- Business unit: Corporate Software Development
- Notes: [Empty text area]

Order Status (Bottom Panel):

Welcome

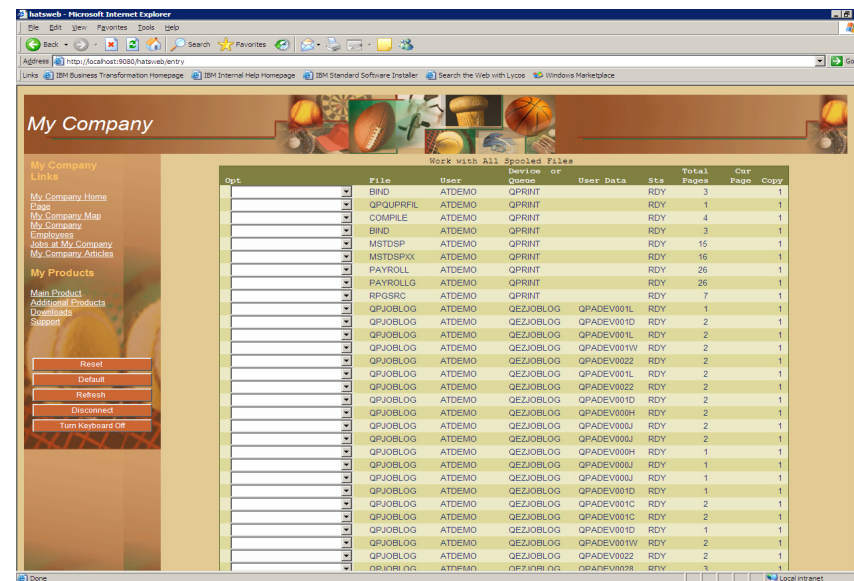
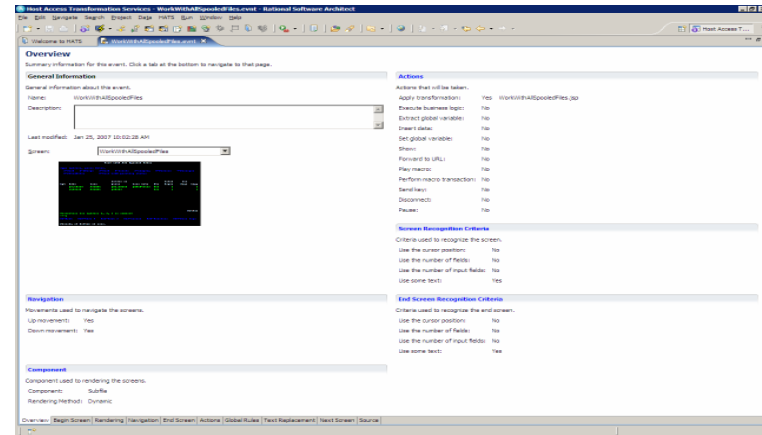
SpeedyMarket

Order	Cans	Bottles	Status
996267	50	100	Queued

Refresh button

Combining Multiple Host Screens

- Developer can combine screens of table, selection list, and subfile data onto one page with an easy to use screen combination wizard.
- No need for:
 - Macros
 - Global Variables
 - Macro handler pages
 - Integration Objects
- Increase end user efficiency by aggregating multiple screens of data onto one GUI
- Screen combination support is available in both HATS Web and HATS rich client applications.



Export Table as CSV or Microsoft Excel File

- Export tabular data from a host screen (or multiple host screens) to a CSV (comma separated file) or Microsoft Excel spreadsheet file.
- End user can save the file locally and open with an appropriate editor / viewer.
- Available when table is rendered with the HATS Table widget.

Opt	Subsystem/Job	User	Type	CPU %	Function	Status
	INOTES	QSYS	SBS	.0		DEQW
	ADMINP	QNOTES	BCI	.0	PGM-ADMINP	SELW
	AMGR	QNOTES	BCI	.0	PGM-AMGR	SELW
	AMGR	QNOTES	BCI	.0	PGM-AMGR	CNDW
	CALCONN	QNOTES	BCI	.0	PGM-CALCONN	CNDW
	COLSRV400	QNOTES	BCI	.0	PGM-COLSRV400	SELW
	EVENT	QNOTES	BCI	.1	PGM-EVENT	SELW
	HTTP	QNOTES	BCI	.0	PGM-HTTP	SELW
	LDAP	QNOTES	BCI	.0	PGM-LDAP	SELW

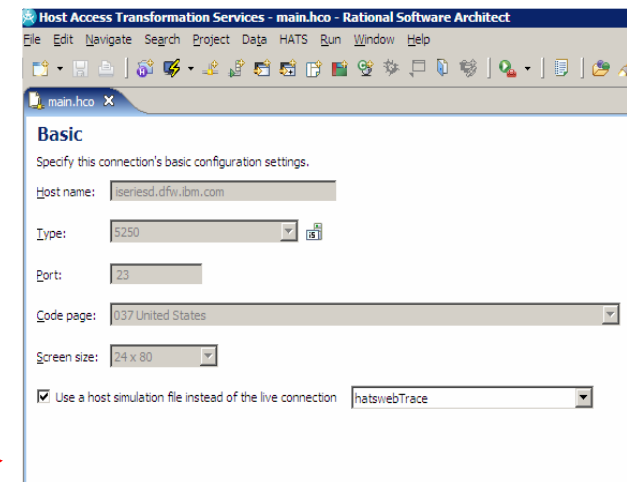
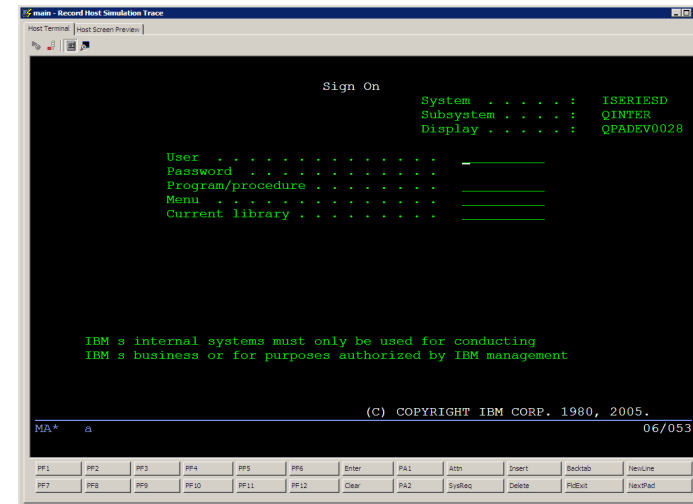
Export...

Microsoft Excel - spreadsheet_022307_163934.csv

Opt	Subsystem	User	Type	CPU %	Function	Status
	INOTES	QSYS	SBS	0		DEQW
	ADMINP	QNOTES	BCI	0	PGM-ADM	SELW
	AMGR	QNOTES	BCI	0	PGM-AMG	SELW
	AMGR	QNOTES	BCI	0	PGM-AMG	CNDW
	CALCON	QNOTES	BCI	0	PGM-CALI	CNDW
	COLSRV	QNOTES	BCI	0	PGM-COL	SELW
	EVENT	QNOTES	BCI	0.1	PGM-EVE	SELW
	HTTP	QNOTES	BCI	0	PGM-HTTF	SELW
	LDAP	QNOTES	BCI	0	PGM-LDAI	SELW

Host Simulator in HATS Toolkit

- Host Simulator Definition:
 - Records interactions with the host
 - Can be played back later for use with HATS terminal or HATS application without requiring host connectivity
- Advantages:
 - Offline and Off site development
 - Demos
 - Debug
 - Integrated- no separate install or UI

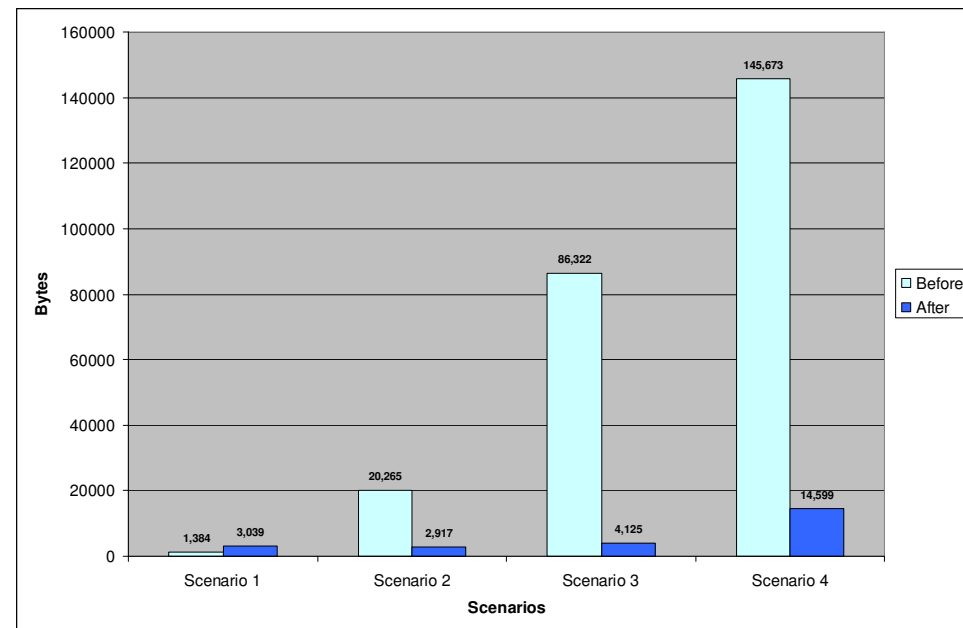


Edit connection to configure use of simulator trace →

HTTP Compression Support

Performance

- HATS compression support:
 - Significantly reduces the number of bytes sent over the network.
 - Improves response time
- Supported on WebSphere Application Server 5.1 and WebSphere Application Server 6.0. Not supported when running in WebSphere Portal Server. Requires a browser that supports GZIP compression (all supported HATS browsers, with the exception of IE 5.2.3 on Mac, support GZIP).
- By HATS supporting compression out of the box, compression does not need to be configured or enabled on the HTTP server.
- Introduced in HATS 6.0.2, **but GUI support for enabling added in HATS version 7.0.**

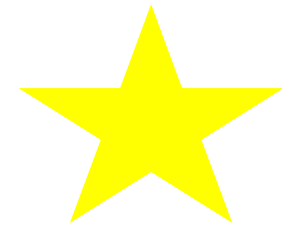


Typical Questions



1. **Question:** How much time does it take to get a HATS application up and running? **Answer:** Only minutes to create and deploy an application that will transform all screens on-the-fly.
2. **Question:** What happens if I change my green screen application? **Answer:** If using default rendering, HATS picks up the change automatically and transforms the screen. In other scenarios, depending on the type of change and how the application was customized, further modifications may need to be made to the HATS application.
3. **Question:** Do I need to import BMS maps? **Answer:** No, not necessary, but possible.
4. **Question:** Do I have to customize every screen? **Answer:** No, only customize the screens / sets of screens needed – default rendering handles the rest.
5. **Question:** What skills are required to develop with HATS? **Answer:** Basic IDE skills, unless you need to do advanced integration. HTML skills are recommended for doing more advanced Web development. Eclipse and SWT skills are recommended for advanced rich client development.

10 Reasons to Consider HATS



1. Default rendering
2. Quick ROI / iterative development
3. Easy to alter the flow of the application
4. Improve productivity for the user
5. For HATS Web applications, a Web browser is the only required software on the client
6. No changes required to green screen application
7. Use of standard technologies (HTML, JSP, J2EE, CSS, JavaScript, Java, Eclipse SWT)
8. Built on WebSphere / Eclipse / IBM Software Delivery Platform
9. Expose green screen applications as Web services
10. Work with and display data from multiple backend systems and applications

More Information is Available

- HATS site on IBM.com
 - Information Center, technotes, downloads, success stories
 - URL: <http://www-306.ibm.com/software/webservers/hats/index.html>

- HATS Demo Site
 - URL: <http://websphere.dfw.ibm.com/whidemo/>

Resources

- IBM WebSphere Host Integration Solution Product Page
 - <http://www-306.ibm.com/software/webservers/hostintegration/>
- HATS Product Page
 - <http://www-306.ibm.com/software/webservers/hats/>
- Demos
 - <http://websphere.dfw.ibm.com/atdemo/>
- Webinars
 - <http://www-306.ibm.com/software/webservers/hats/webinars/index.html>
- Library, Brochures, Presentations, Redbooks
 - <http://www-306.ibm.com/software/webservers/hats/library.html>
- Education
 - <http://www-306.ibm.com/software/webservers/hats/education.html>
- Services
 - <http://www-306.ibm.com/software/webservers/hats/services.html>
- Trial Code
 - <http://www14.software.ibm.com/webapp/download/search.jsp?go=y&rs=hatst>
- Customer Comments
 - http://www-306.ibm.com/software/webservers/hi_customers/
- Business Partners
 - http://www-306.ibm.com/software/webservers/hi_partners/
- Customer Success Stories
 - [http://www-306.ibm.com/software/success/cssdb.nsf/advancedsearchVW?SearchView&Query=\(host+access+transformation\)+AND+\[WebSiteProfileListTX\]=wssoftware&site=wssoftware&frompage=ts&Start=1&Count=30](http://www-306.ibm.com/software/success/cssdb.nsf/advancedsearchVW?SearchView&Query=(host+access+transformation)+AND+[WebSiteProfileListTX]=wssoftware&site=wssoftware&frompage=ts&Start=1&Count=30)

Thank
YOU

The image features the words "Thank YOU" in a large, 3D, light blue font with a yellow-orange outline. Each letter of the word "Thank" contains a different person's face, and the word "YOU" also contains three different faces. The faces are diverse in age and ethnicity. The background is white.