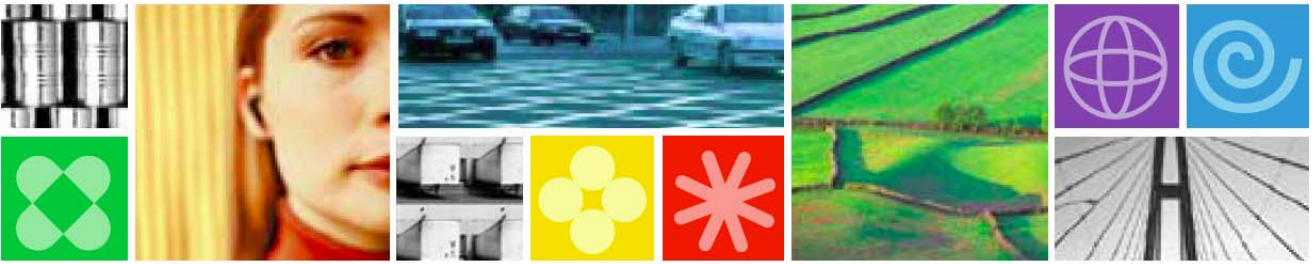
Smart Reuse- Transform green screens to Web, SOA, mobile, and portal



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Agenda

- **Customer challenges**
- **Introduction to HATS**
- **HATS transformation demo**
- **HATS web services**
- **HATS web services demo**
- **Other HATS Capabilities**

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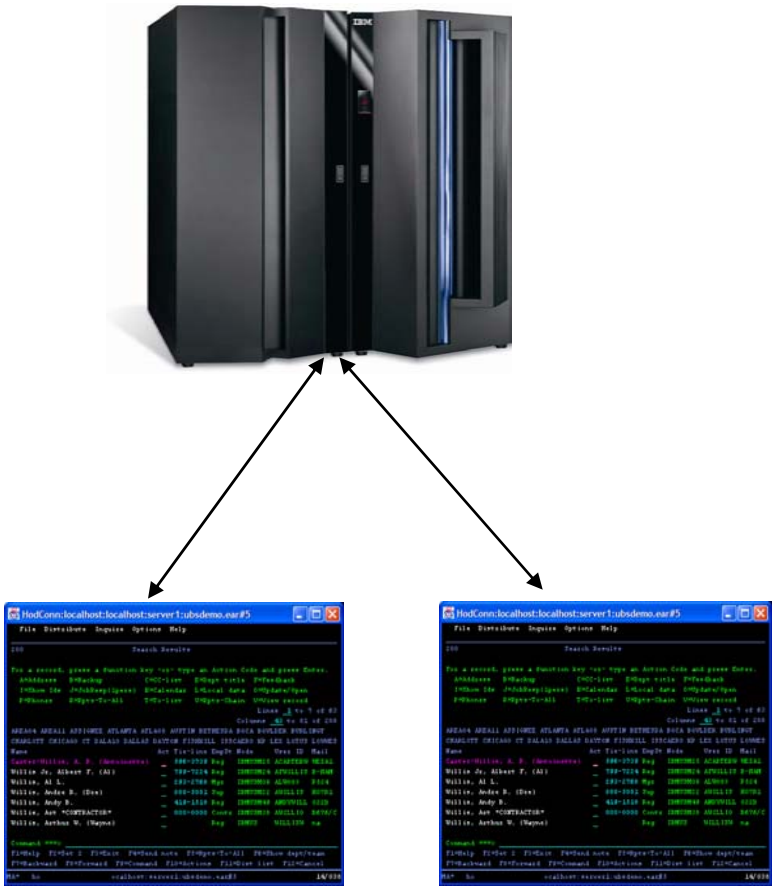
Value of Existing Applications

- Existing applications are among the most valuable assets a company owns
  - Fully functional applications that run the business today
  - Significant investment 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
- 5X **less expensive** to reuse existing applications than to write new applications from scratch
- Reusing proven, time-tested applications can result in significantly **lower risk** and **faster time to market**



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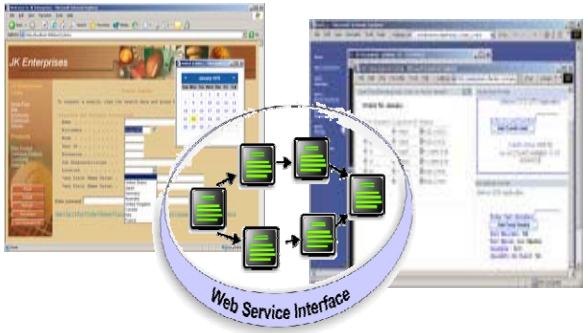
Companies want to….

- Improve the appearance of user interfaces
  - Reduce learning curve for newer employees
  - Extend to new customers who rely on web application ease-of-use
- Improve employee productivity by streamlining application flow
  - Automate where appropriate - eliminate unnecessary keystrokes
  - Customize access for a specific set of users
- Eliminate or reduce administration and maintenance of installed client software
  - 3270 or 5250 emulation clients
  - Browser is universally available



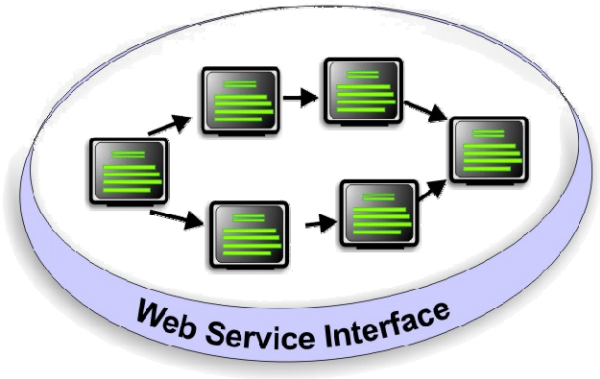
- Leverage “integration at the glass” - Portal and Lotus Expeditor technology
  - Access existing applications from a common portal
- Customers want to use existing applications in their new business processes
  - SOA, Web Services based composite applications
  - Require integration with new J2EE, .NET, etc. applications for totally new user interfaces and/or business process automation

But…

They don’t know how to upgrade their archaic green screen applications without rewriting or refactoring

Host Access Transformation Services (HATS)

- **What can you do with HATS?**
  - Quickly and easily create Web, portal or rich client applications that provide an easy-to-use GUI for your green-screen applications
    - Low skills requirement
    - Highly customizable
    - Iterative development process
    - Transformation “on the fly”
  - Extend terminal application tasks as Web services
- **Benefits**
  - Extend host application to new users
  - Improve the navigation of your host application
  - Reuse your existing assets in a Service Oriented Architecture
  - Avoid rewriting applications (no impact to code)



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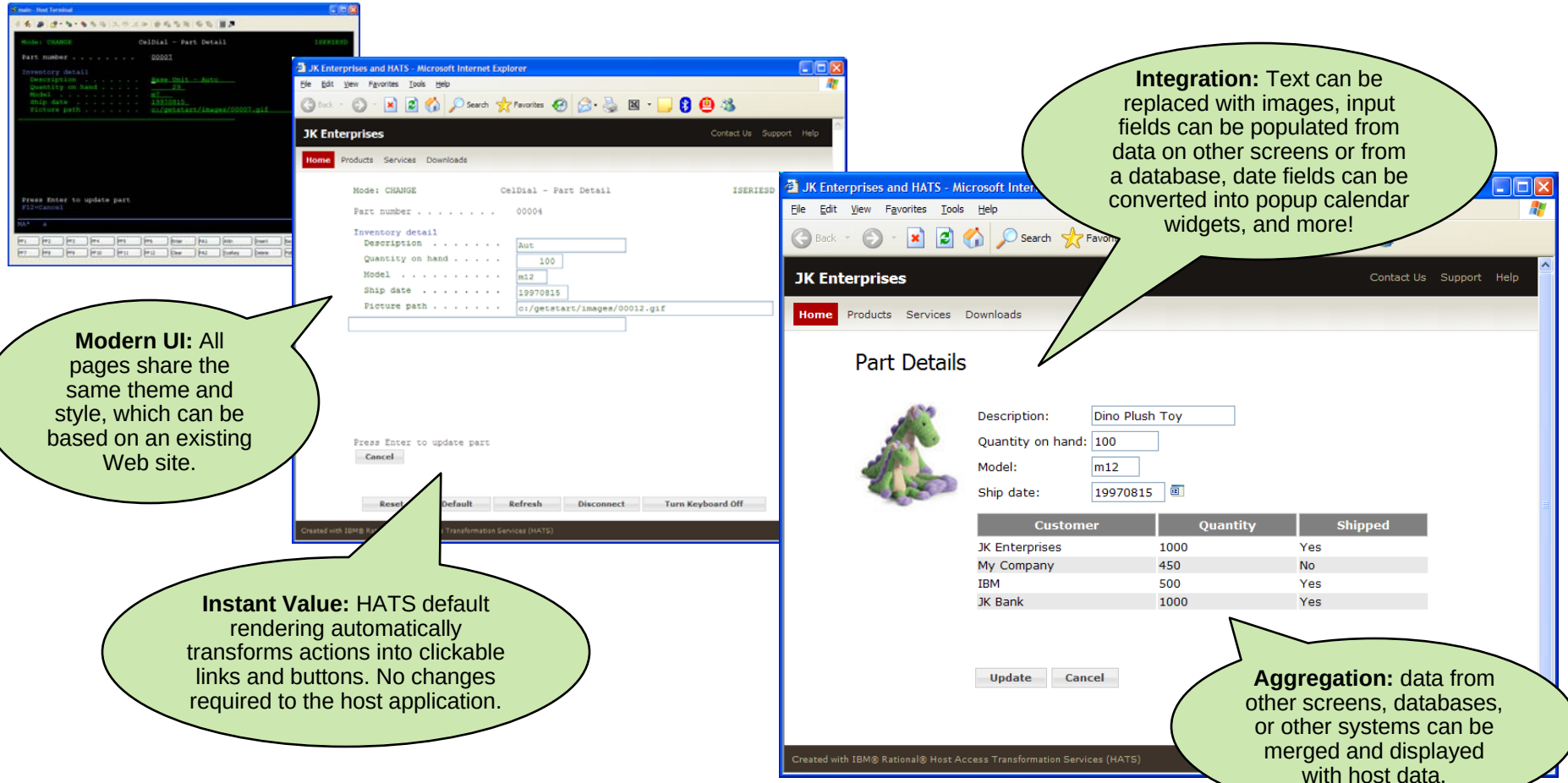
Modernization At Your Own Pace

Today

Day 1

Tomorrow



Modern UI: All pages share the same theme and style, which can be based on an existing Web site.

Instant Value: HATS default rendering automatically transforms actions into clickable links and buttons. No changes required to the host application.

Integration: Text can be replaced with images, input fields can be populated from data on other screens or from a database, date fields can be converted into popup calendar widgets, and more!

Aggregation: data from other screens, databases, or other systems can be merged and displayed with host data.

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HATS deployment options

3270 or 5250 datastream

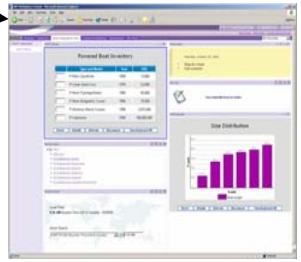
Web

- View through your favorite browser
- Zero footprint

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

Portal



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

Mobile

- PDA, Cell Phones, Data Collection terminals

Web Service

- Build self-service transactions

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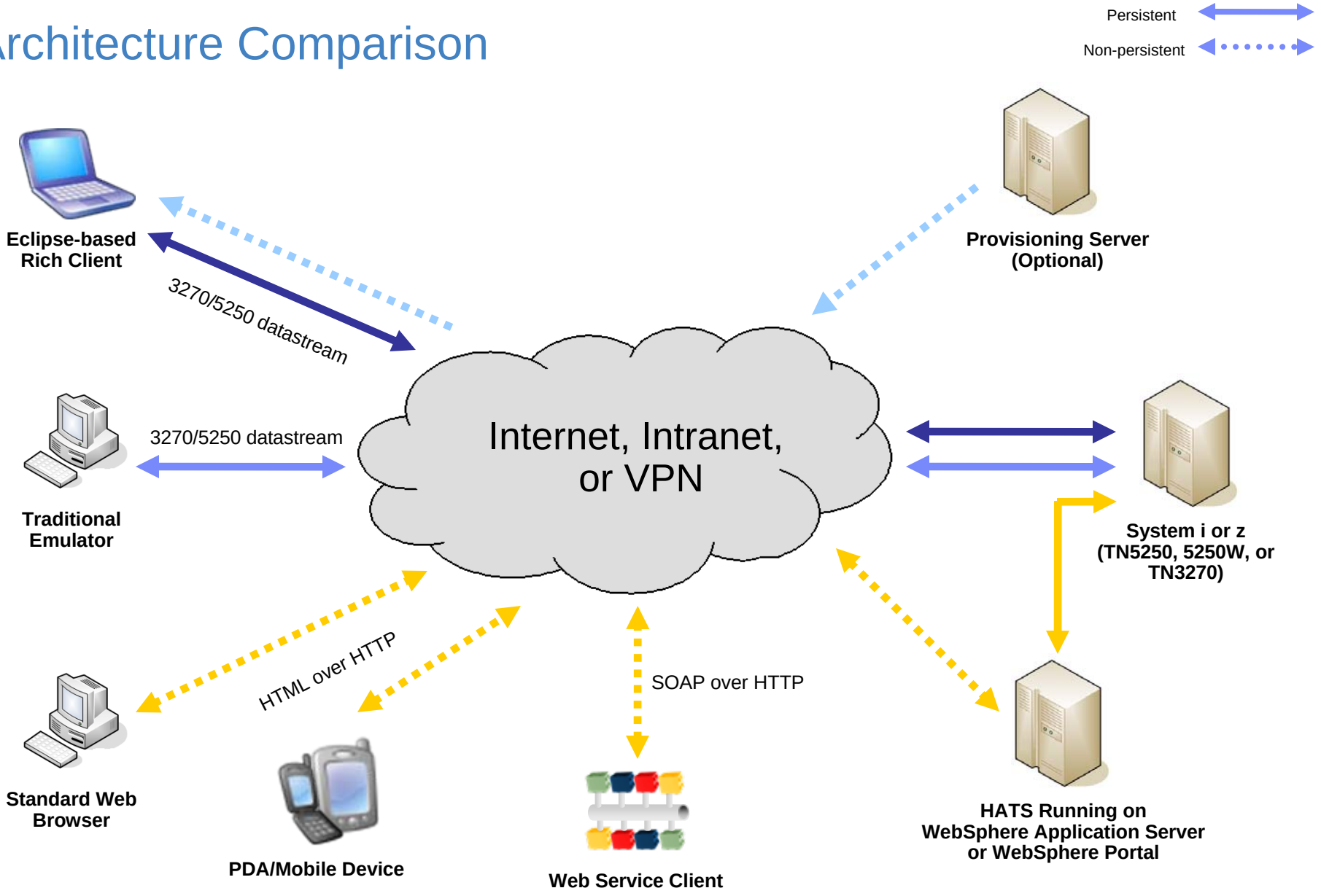
Architecture Comparison



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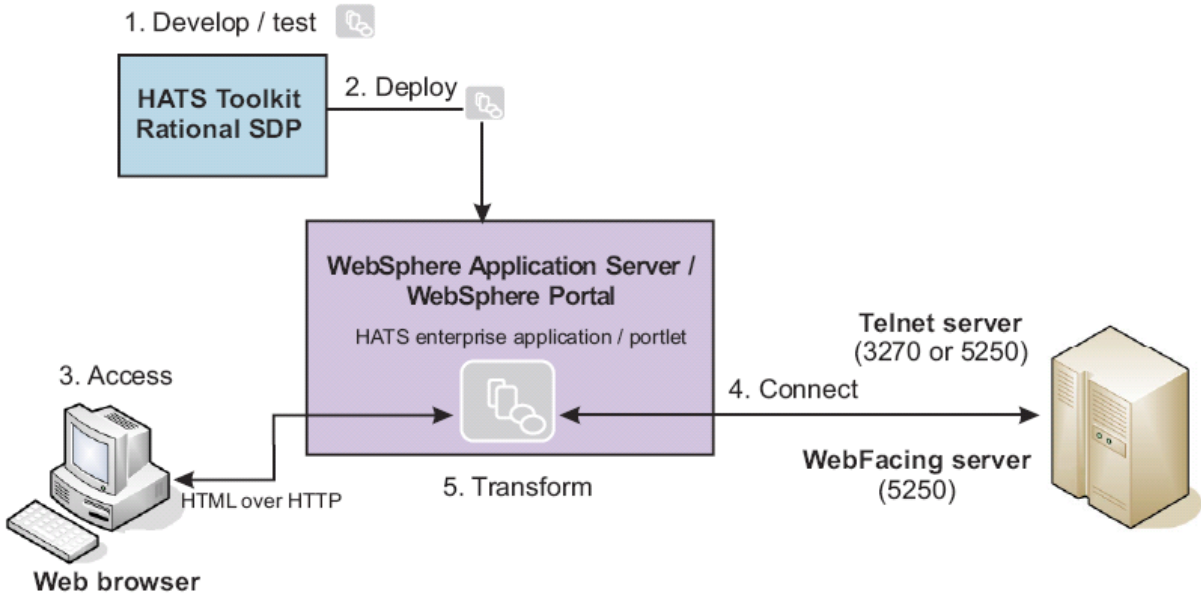
Creating a HATS Web Application

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.



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A Southern US Utility Company Uses HATS to Extend Green Screen Applications to the Web

- **Business Challenge:**
  - Customer service call center needed to increase each customer service reps productivity, while reducing training time, errors and employee turnover because of the existing application's complexity.
    - Annual employee turnover rate of 20 percent, which resulted in 46 new employees per year.
    - Handles 10,000 calls per day.
    - Averages 44 calls per employee per day, translating into 5.4 calls per hour per employee.
- **Solution:**
  - Rational Host Access Transformation Services Implemented to streamline navigation of their call center application.
  - Deployed a self-service web site for customers to access directly.
  - ***7 weeks to deploy solution with 2 developers***
- **Business Benefits:**
  - Reduced keystrokes and workflow steps by 10 percent. and reduced employee turnover resulting in fewer new employees per year, saving even more in annual training costs.
  - Decreased manual entry errors, which helps increase customer satisfaction.
  - Saved 0.5 minute per call (5 percent), resulting in a US$345,000 reduction in labor costs.per year.
  - Reduced CSR training time from 12 weeks to 2 weeks, saving US$577 per week per new employee, for a total of US$265,420 per year.
  - Self-service Web site offloaded 8 percent of call center calls, saving US$552,000 in labor costs.

White Paper: //ftp.software.ibm.com/software/rational/web/whitepapers/HATS_Call_Center.pdf

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A Large US Electronic Payment Processing Firm Modernizes 20 Year Old Credit Card Applications in 4 Months

- **Business Challenge:**
  - Two feature rich, highly secure CICS credit/debit card management applications with 1,000's of screens that meet strict SLA's, Sarbanes-Oxley, SEC, and financial regulations
  - Gradually losing to the competition, who are offering Web or rich client UIs
  - Rewrote part of the applications using .NET
    - >$30M initial development cost
    - New application included custom work flows and integration and covered 25% of the logic. CSRs still need green screens in som scenarios
  - High training costs
    - ~90 days to train a new CSR
    - Average turnover in 10-12 months
- **Solution:**
  - Rational Host Access Transformation Services with a small amount of customization, navigation improvement, and integration with other data.
  - Covers 100% of the original application logic
  - ***To production in 4 months***
- **Business Benefits:**
  - Low risk- no change to the original applications
  - Easier to use, and contains all the built in security, reliability, and compliance of the original applications
  - Customer savings in software and administration with zero client browser solution
  - Modernization with HATS cost 10% of the .NET modernization effort
  - Estimated 75% savings in training time

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The Value of HATS SOA

- HATS is an important part of the IBM SOA strategy!
  - IBM SOA Foundation helps to **extend** the value of the applications and business processes that currently run your business, **not replace** them.
- HATS does not require application reengineering or rewriting
  - Rewriting can consume significant amounts of time and resources.
  - Rewriting requires access to and understanding of application source code.
  - Rewriting inherently introduces new bugs that must be found and fixed.
  - Simply put - rewriting is not an option for some customers!
- HATS is unique
  - HATS is the only IBM product that Web Service-enables 3270, including CICS and IMS, 5250, and VT terminal applications – great for customers with a mix of applications (one tool can be used to enable all of them).
- HATS generates standard Web Service interfaces
  - HATS services can be integrated into an existing SOA.

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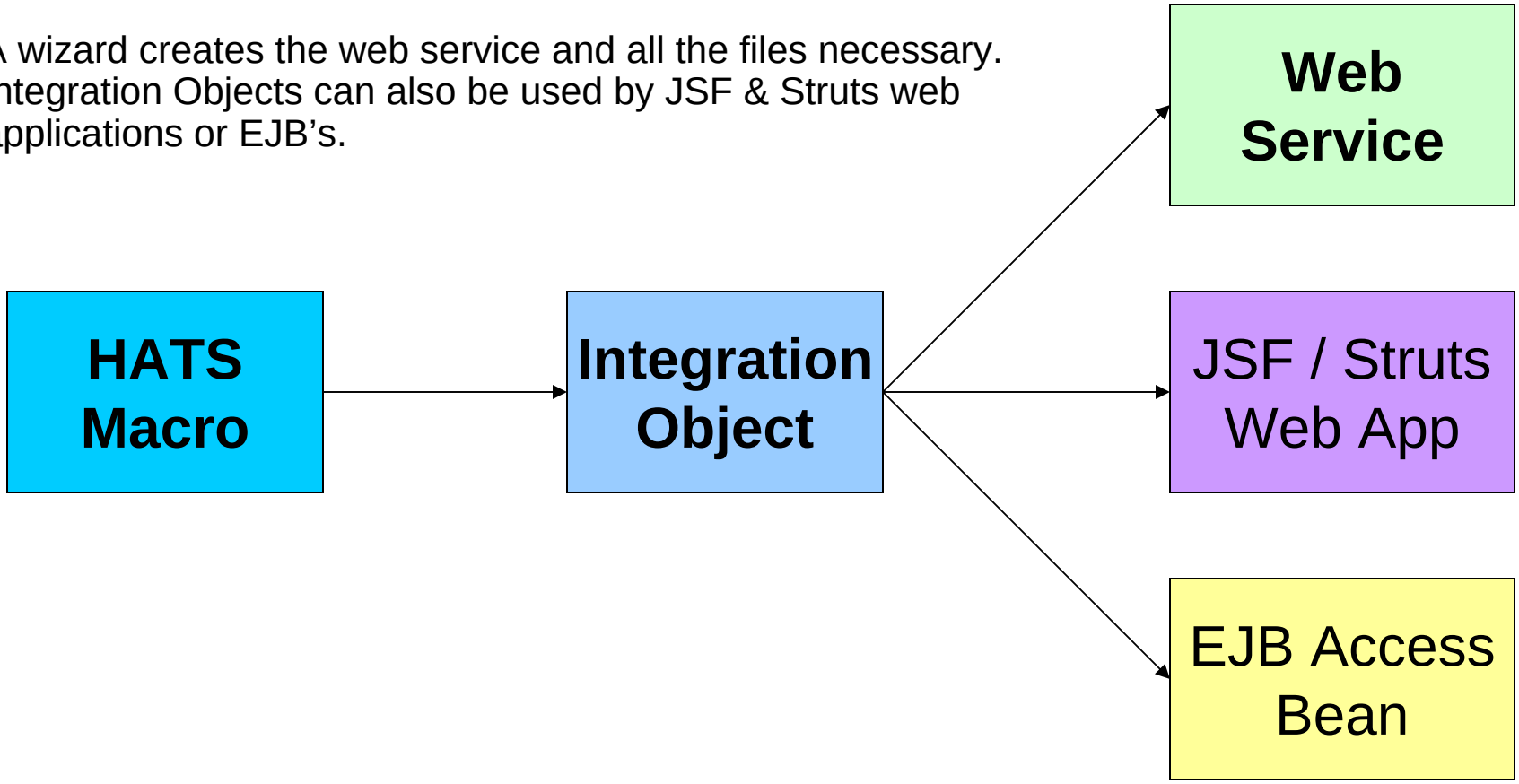
It takes minutes to create web services using HATS

1. A macro is created and is used to navigate through a set of host screens.
2. An Integration Object (or IO) is created to run the macro.
3. A wizard creates the web service and all the files necessary. Integration Objects can also be used by JSF & Struts web applications or EJB's.



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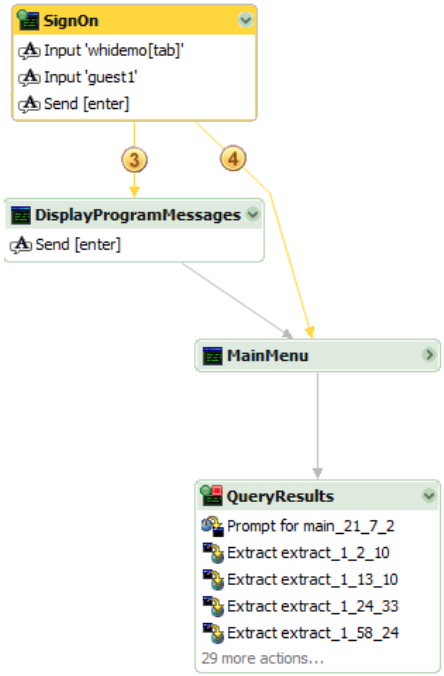
Visual Macro Editor (VME)



- **The VME is tool for visually developing HATS macros**
  - Macros are the scripts that navigate and interact with 3270, 5250, VT host applications.
  - Macros are the foundation for the Web Service support provided by HATS.
  - Inputs and outputs in a HATS macro are eventually manifested as inputs and outputs in a Web Service (screen interactions are hidden behind the Web Service interface).
- **The VME provides value by:**
  - Significantly increasing the productivity of HATS macro developers.
  - Allowing for easier handling of alternate / error flows.
  - Helping decrease the number of logic / flow problems (since the flow can be clearly analyzed by both developers, expert users, and business analysts).

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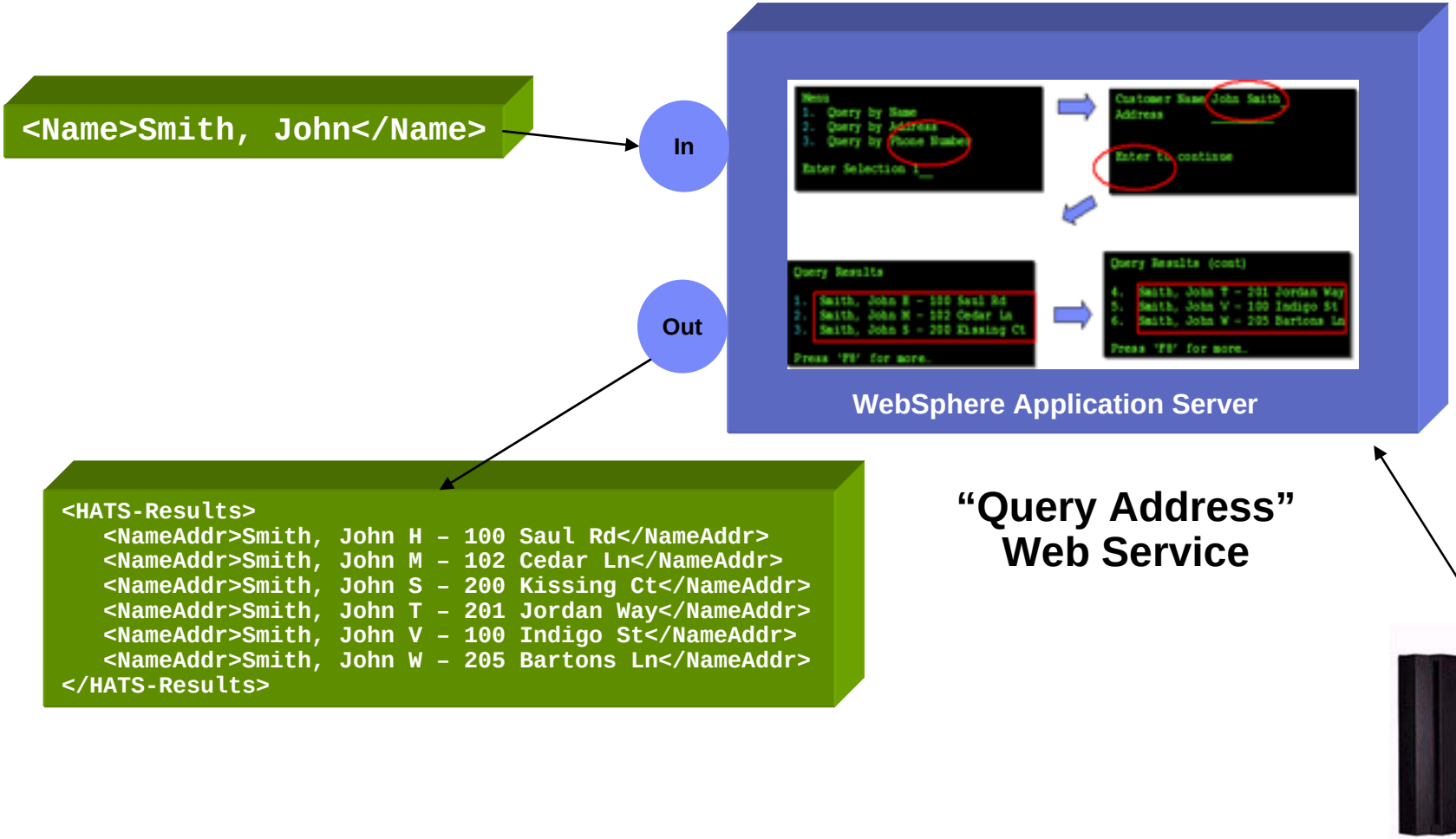
How It Works - A simple example



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Ball State University bridges disparate systems and solves key administrative issue with IBM SOA solution.

The Challenge: **Coordinate 40 name and address systems to streamline administrative processes and ensure information integrity for users.**

The Solution: **SOA with HATS Web services and Enterprise Service Bus to connect siloed applications without hand-coding individual API calls**

The Benefits: **Ability to develop and implement services in an SOA environment for resolving name and address discrepancies in 10 months, as opposed to several years for hand-coding individual application connections; confidence that IBM solution can lead to wider use of SOA to further streamline administrative business processes; services created here can be reused in later SOA efforts**

"If you tried to have each system be aware of 40 other systems where addresses are kept, you'd be constantly in maintenance mode trying to accommodate how another system maintains addresses and how do you communicate to it. So, the advent of SOA and Web services is not just an evolutionary step, to me it's a revolutionary step."

-–Fred Nay, IT Director, Ball State University

Case study link: http://w3-01.ibm.com/sales/ssi/cgi-bin/ssialias?appname=crmd&subtype=na&infotype=cr&htmlfid=0GLOS-78RT2V

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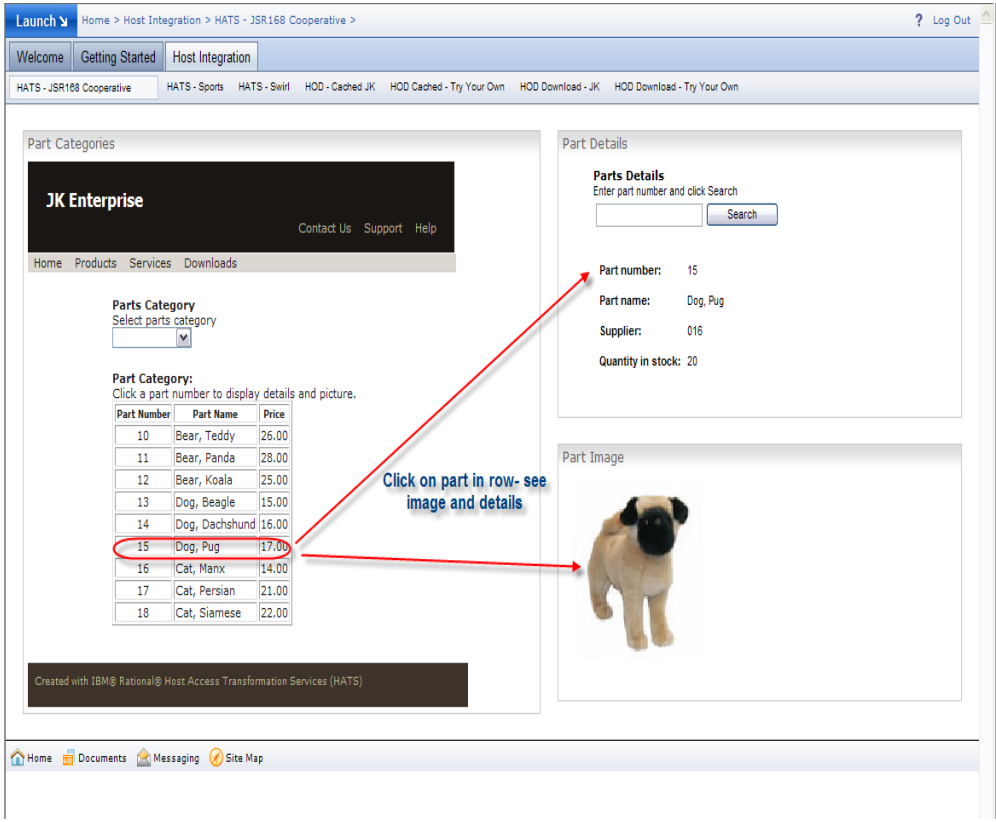
Integration with WebSphere Portal

- Aggregate applications and content and deliver them as role-based applications
- Tailor your host applications to different user roles as portlets
- Present multiple host applications on the same page with business, productivity, and collaboration portlets
- HATS supports:
  - JSR168 Portlet API
    - Cooperative portlets
    - Connection overrides
  - IBM Portlet API
    - Cooperative portlets
    - Single Sign-On with portal credentials and credential vault



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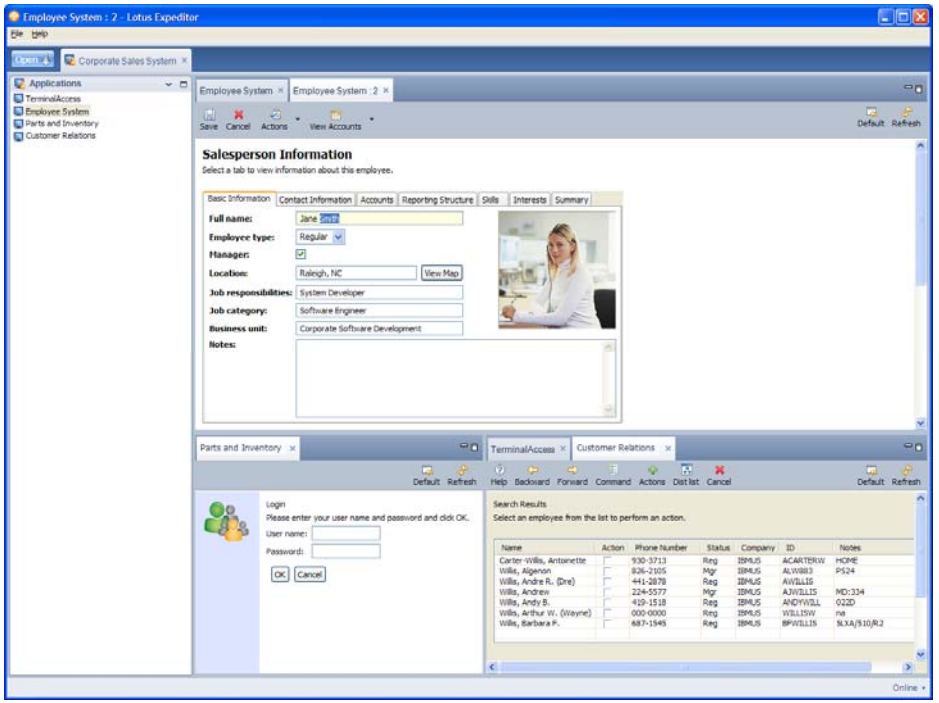
HATS Rich Client Support

- Extends host applications to the desktop. Applications run on:
  - Eclipse RCP 3.2, 3.3, or 3.4
  - IBM Lotus Expeditor Client 6.1.x, 6.2.x
- Provide a modern GUI interface to mission critical green screen applications.
- Processing occurs on the desktop (WebSphere Application Server is not required)
- Provides the capability to integrate host access applications with other applications on the desktop.
- Alternative to traditional terminal emulator products.
- Targeted for internal users in a controlled environment.



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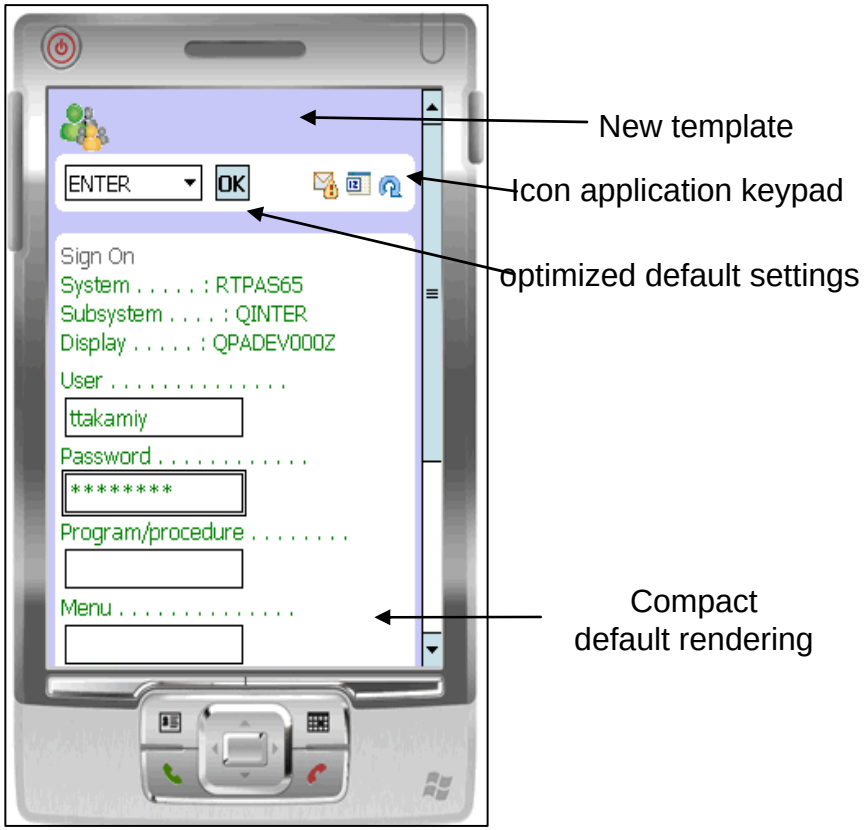
HATS Mobile Device Support

- HATS transformation applications can now be accessed by pervasive devices such as cellular phones, data collection terminals, and Personal Digital Assistants
- This allows for the HATS developer to:
  - Customize and transform individual screens
  - Add business logic to screen interactions
  - Enhance the presentation, layout, and flow of the original host systems
- Supported browser: Internet Explorer Mobile 5.0 or later
- Reminder: HATS Integration Object or Web service data can also be used in conjunction with mobile devices

Compact Default Rendering



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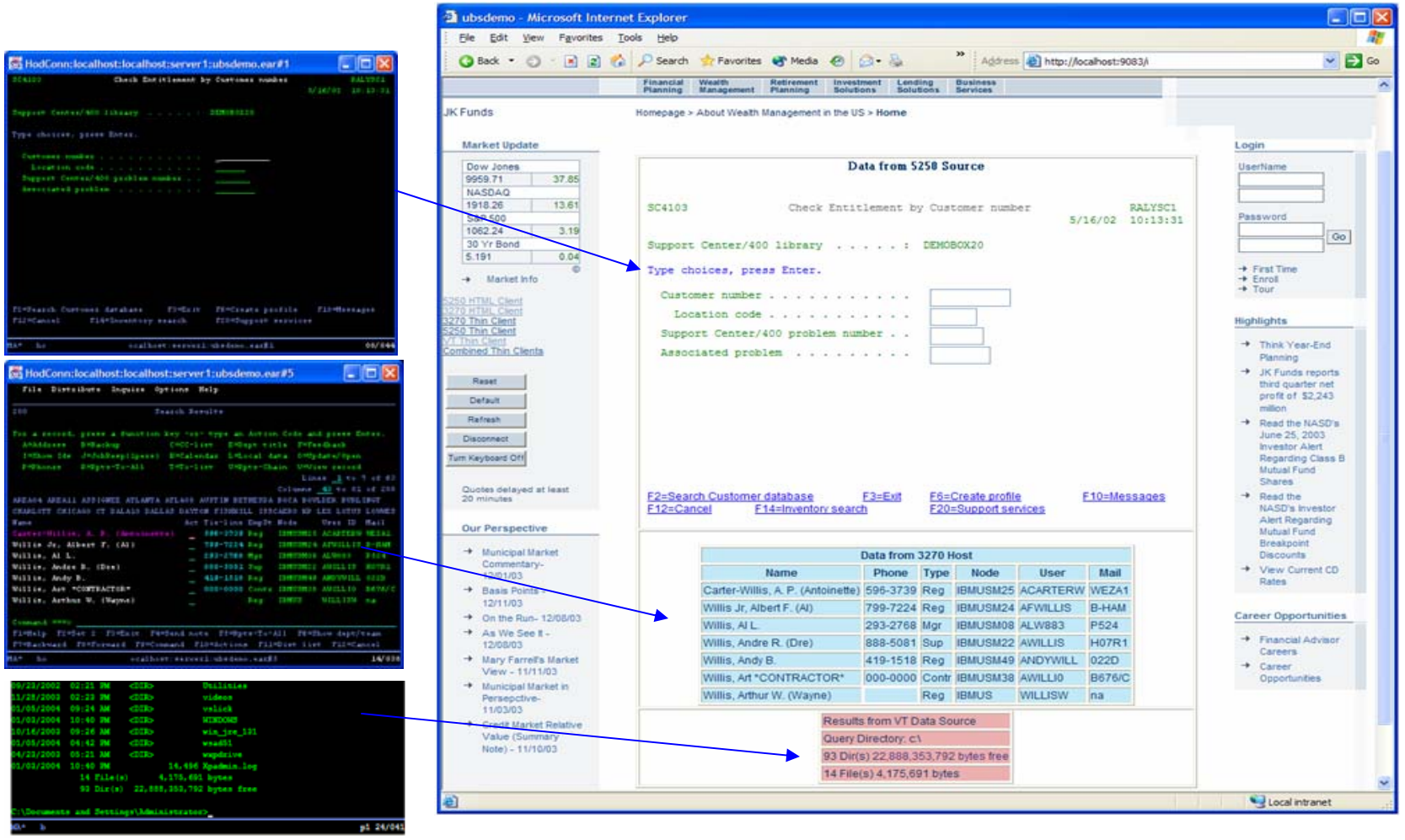
Combine and Integrate



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Host Access Transformation Services Summary

Rich Client	Browser	Portal	Mobile	Web Services
• Integration at the desktop with other Eclipse-based applications • Client side processing • Rich set of user interface widgets • Supports Lotus	• Zero footprint • Pure HTML • Access through your favorite browser, including Internet Explorer and Firefox.	• Integration at the glass • Cooperative portlet support • JSR 168 compliant	• Access host applications from mobile devices	• Build self-service transactions • Expose host business processes as Web Services • Provide controlled access to vital host applications and host data.

- ***Quick ROI : Host applications can be quickly deployed with a new user interface***
- ***Low cost : No need to rewrite application***
- ***Low risk : Leverage open, proven platforms and technologies***
- ***Increase productivity and reduce training costs***
- ***Improving work flow from multiple applications***
- ***Provides integration of host business processes and data with other Web, portal, and rich client applications***

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Resources

Enterprise Modernization (EM) Home Page

- http://www-306.ibm.com/software/info/developer/solutions/em/index.jsp

EM Sandbox

- http://www.ibm.com/developerworks/downloads/emsandbox/systemz.html?S_TACT=105AGX23&S_CMP=EM (System z)
- http://www.ibm.com/developerworks/downloads/emsandbox/systemi.html?S_TACT=105AGX23&S_CMP=EM (IBM i)

HATS Resources:

- ***Product Page***: http://www-306.ibm.com/software/awdtools/hats/index.html
- ***Trial Code:*** http://www14.software.ibm.com/webapp/download/preconfig.jsp?id=2004-08-19+09%3A27%3A47.465987R&S_TACT=104CBW71&S_CMP=&S_CMP=rnav
- ***Demos:*** http://rational.demos.ibm.com/atdemo/atdemo_hats.html
- ***HATS HotSpot***: http://www-949.ibm.com/software/rational/cafe/community/hats
- ***IBM Education Assistant***: **http://www-306.ibm.com/software/info/education/assistant/**

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