IBM

IBM WebSphere Host Access Transformation Services, Version 7.0
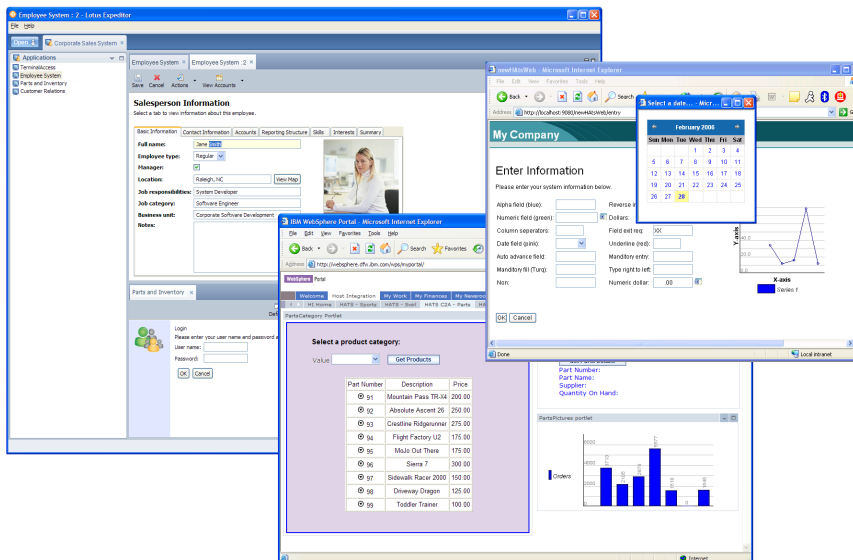

Highlights

■ *Enhances 3270 and 5250 screens with a GUI*

■ *Provides a new capability designed to extend host applications to a rich client platform, like Lotus Expeditor, within hours, without having to access or modify source code*

■ *Provides programmed access to host transactions through standard Web-services interfaces*

■ *Combines data from multiple host screens with a new screen combination wizard and editor*

■ *Converts HATS table component data to a spreadsheet file*

■ *Enables HATS and WebFacing applications to fully interoperate*

With IBM WebSphere Host Access Transformation Services, you can extend host applications quickly to the Web, a portal or a rich client platform.

Today's business climate can render traditional interfaces outdated and difficult to use. But the applications themselves have a proven, stable track record, represent a tremendous business investment — with tremendous business value — and can be expensive and risky to replace. To update these applications with minimal risk, you can reuse these critical assets by improving their user interfaces.

IBM WebSphere® Host Access Transformation Services (HATS) can provide a quick and easy way to replace more-traditional displays with a point-and-click interface. HATS gives you the tools you need to quickly and easily create Web applications, including portlets, and rich client applications that provide an easy-to-use GUI for your 3270 applications running on IBM System z™ platforms and your 5250 applications running on IBM System i™ platforms.

You can also use HATS as part of your service oriented architecture (SOA) environment. For example, you can create Web services that provide standard programming interfaces to business logic and transactions contained within host applications, allowing you to reuse your existing, stable assets.

A key advantage in implementing HATS is its ease of use. One or more host screens are converted to GUIs on the fly, in real time. And with the HATS rules-based transformation engine, you can easily improve the workflow and navigation of host applications without having to access or modify source code. As a result, you can usually extend your host applications with a familiar GUI interface within a day of loading the program, which can help boost productivity.

Quickly expand your host applications to more users
With the easy-to use GUI interface in HATS, you can deploy your host applications to the Web, to a portal or to a rich client, based on the needs of your users.

Extend your host application to the Web
The development process for building HATS Web, portal and rich client applications is similar. HATS gives you the capability to create a GUI suited to your business needs and standards. You can hide unnecessary information, organize data into tables or display only required input fields. Also, you can provide a drop-down list of valid values for an input field, change the size and location of some of the text and provide navigation buttons.

After you have developed a HATS application, you deploy it to a production environment. Users can interact with the HATS application through their favorite browser, and data is sent back and forth between the user and the host application.

Expand your host application through a portal
Portals have become increasingly popular as a way to maximize business flexibility while minimizing screen space. IBM WebSphere Portal provides a personalized, single point of access to enterprise information. HATS can run directly in the WebSphere Portal environment and take advantage of integration with other portlets in the portal. Features, such as click-to-action and cooperative portlets, help enable higher levels of productivity by sharing data between portlets. Credential vault and Web express-logon support can help users simplify the process of signing on and providing credentials to multiple applications. HATS works with IBM Tivoli® Access Manager or other vendor products to provide support for Web express logon.

Deliver your host application to a rich client
HATS gives you the ability to transform access to your existing host applications using rich client GUI applications that run in Eclipse Rich Client Platform (Eclipse RCP) or IBM Lotus® Expeditor Client environments. Eclipse RCP enables you to use the core functionality provided by Eclipse to build native client applications targeted for a user's desktop. Lotus Expeditor Client provides a rich client runtime environment and integrated middleware components for extending many enterprise applications to server-managed laptop and desktop systems.

A rich client environment offers capabilities not available in a traditional Web or portal environment, including improved response time, a richer set of user interface (UI) widgets that provide for a more-native application appearance, no dependency on WebSphere Application Server or WebSphere Portal, client-side processing (distributed, not centralized on a single server), and printing 3270E print jobs directly to a user's local printer.

Reuse your assets, reduce your risk
One of the key benefits of HATS is that it enables you to reuse your existing, proven and stable assets in new ways, and helps avoid the risk of rewriting your applications.

Create Web services from programmed navigation of host applications
HATS, in conjunction with IBM Rational® Software Delivery Platform, helps simplify the creation of standard Web services interfaces to provide access to host applications. Web services protocols, such as SOAP and Web Services Description Language (WSDL), provide an efficient and reusable means to standardize access to your host systems, helping you lower the cost to maintain and deploy connectors to these systems.

Create new aggregate applications
HATS, together with Rational Software Delivery Platform, provides a flexible and extensible environment you can use to integrate host applications with Java™ technology-based applications. You can combine screens and data from multiple host sources to create new Web, portal or rich client applications.

And you can use HATS and Rational Software Delivery Platform wizards to create GUIs that interact with new data sources. For example, you can use Rational Software Delivery Platform wizards to create Structured Query Language (SQL) queries and business objects (Web services, Java beans or Enterprise JavaBeans [EJB] components) to implement these SQL queries.

Optimize security functions and scalability with WebSphere Application Server and WebSphere Portal
HATS offers a broad range of security features. It also takes advantage of the security-rich features provided by IBM WebSphere Application Server and WebSphere Portal. Secure Sockets Layer (SSL) and HTTP Secure (HTTPS) provide robust security between the host application, the middle-tier server and the user. HATS appears as a typical user to your host application, enabling you to take advantage of existing access security systems, such as IBM Resource Access Control Facility (IBM RACF®).

The runtime components of HATS are generated by HATS Toolkit and can be deployed to WebSphere Application Server or WebSphere Portal. The IBM WebSphere platform provides support for the workload-management features required for enterprise-class scalability and availability. Load-balancing and failover support functions, such as vertical and horizontal clustering, are handled by the WebSphere workload management capability.

An extensible solution with HATS open architecture
HATS is a robust tool right from the start. But HATS benefits are not limited to just improving your GUI. Because it's built on industry-leading WebSphere software using a Java 2 Platform, Enterprise Edition (J2EE) architecture and on the open-source Eclipse Rich Client, HATS has virtually unlimited flexibility and extensibility.

HATS also supports global variables, enabling you to streamline your applications and reduce the amount of input required by your users. With more customization, global variables provide further capabilities for moving data between your host application and other applications and databases.

An Eclipse technology-based development environment
IBM HATS Toolkit is fully integrated within the Eclipse technology-based Rational Software Delivery Platform. It offers an intuitive interface and easy-to-use wizards for customizing the rules for transformation of traditional screens. The Eclipse platform is an industry-standard application-development environment, providing the benefits of a common framework and reusable skill set for the development of Web-based applications. Integration within Rational Software Development Platform delivers a common tooling family for your business needs. The application-development features also provide a variety of other benefits, such as team-development facilities that enable code management across multiple developers.

Customize your host application and boost your productivity

As you extend your host applications to new users, HATS enables you to customize those applications to make them easier to use. You can customize as much or as little as you want, and at your own pace.

Make your host applications easier to use

The power of HATS lies in its ability to accurately recognize and transform one or more host screens in real time to a GUI interface, according to a set of predetermined rules. A collection of default rules is included with the product. You can easily modify these rules to accommodate your specific needs and tastes. You can give a single host application a variety of looks that are appropriate for different user groups. Alternatively, you can use a single rule set on different applications, allowing you to reuse your work across multiple existing applications.

HATS Toolkit includes a variety of options, or widgets, to transform host-screen elements into GUI panel components. Widgets include drop-down lists, radio buttons, hot-link lists, button tables and bar graphs. You can also customize these widgets or create your own to meet your specific requirements.

You can streamline user interactions with traditional host applications with HATS macro support for programmed navigation through multiple screens for traditional host applications. For example, you can choose to have the first screen that users need to see displayed immediately, bypassing all screens in between. Or you can combine data from multiple host screens, as well as multiple data sources, into a single HATS screen.

Improve your GUI

With HATS, you can add drop-down lists, tables, radio buttons, tabbed folders and other features to your host screens to help users become more productive. Your users can point and click their way through your entire host application or click program function (PF) keys. They can also click the word that describes a key's function. A user can also access input fields with the mouse instead of having to use tabs or arrow keys to navigate the screen. With HATS, users of your traditional applications have the same familiar experience they have when using other applications.

Enhance presentation of your host applications

Not only can HATS make your GUI more functional, it can also improve your applications' appearance by adding standard GUI components. Enhancing the GUI of your host screens is easy — from logos and graphics to pictures and backgrounds. With HATS, you can give your host applications the same visual design as your existing corporate applications. For example, you can add links along the side of your panel or anywhere else you like. You not only have the power to design screens how you choose, you can present your business in a way that is professional and appropriate, without sacrificing the value of your existing applications.

Customize at your own pace

HATS offers tremendous flexibility for extending your HATS implementation over time. One significant advantage of HATS is that you need to invest only minimum time and resources to get started. You can use HATS to quickly deploy your existing applications to your user and deliver immediate value to your business. After you have deployed your HATS application, you might decide to add customization to the project. With HATS, you have the ability to select individual screens or groups of screens to be uniquely customized. Because HATS is rules-based, a set of rules that you create to

customize a single host screen can easily be applied to numerous screens that share similar customization requirements. HATS enables you to spend time on the high-traffic and high-value screens — the screens where most of the action and most of the value resides in your host application. Other screens can be converted to a GUI according to the project's default rules. For this reason, HATS doesn't stop working if you make changes to the host application.

Your rule sets can be created with the easy-to-use graphical tools provided in HATS. To create a rule set, you simply select the HATS option for the topic you want to work with on the screen, like a selection list. You can then select the option that describes how you want HATS to transform that screen element if it is found — and, for example, convert it to an option list. You can also insert GUI elements, such as graphics and HATS links, in any rule set.

Reduce training costs

Training new users on host applications costs time and money. Today's mobile workforce often does not have the time or inclination to learn to navigate complex, more-traditional systems. And your business partners and customers want a familiar interface on which they can become productive right away. Using HATS, you can present them with a graphical interface that makes your company look modern and up to date.
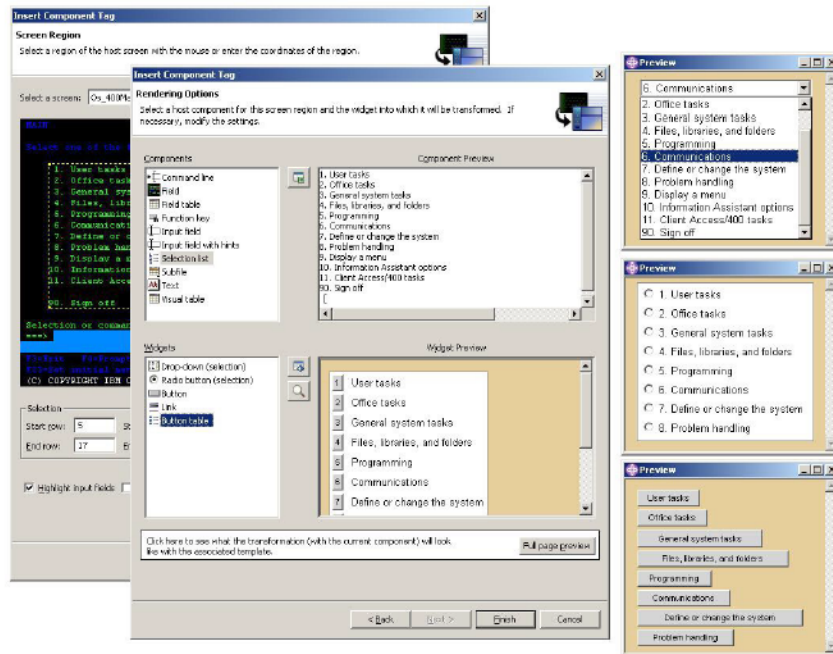
HATS Toolkit lets you quickly and easily customize your host applications.

With a minimum of time and resources, HATS can help rejuvenate your host applications, enabling your organization to continue to benefit from its substantial investment in critical systems for years to come.

Convert HATS table component data to a spreadsheet file

You can convert host data to a format that is easily consumed by a spreadsheet program. At run time, a widget creates a temporary comma separated value (CSV) or Microsoft® Excel spreadsheet (XLS) file of the table, and provides a button or link as part of its output. When you click the button, the file is retrieved and opened appropriately on your workstation.

HATS and WebFacing application runtime interoperability

HATS interoperability with WebFacing applications provides the ability to perform data description specification (DDS) map transformation, as well as 5250 data-stream transformation, within the same Web application. This function is particularly useful for those who have built a DDS source-based transformation application, using the WebFacing tool, that needs to interact with a host application that has been transformed using the HATS tool. It is also useful for HATS users who want to take advantage of transformation, based on DDS maps, provided by the WebFacing tool. With this support, a HATS application and a WebFacing application can be linked together to interoperate as a single enterprise application and use a single connection to a WebFacing server.

IBM WebSphere Host Integration Solution

IBM WebSphere Host Access Transformation Services is part of the market-leading IBM Host Integration family of host access and Web-to-host solutions. HATS complements WebSphere Host On-Demand and is available both within the IBM WebSphere Host Integration Solution or as a stand-alone solution.

For more information

To learn more about IBM WebSphere Host Access Transformation Services, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/webservers/hats

To join the Global WebSphere Community, visit:

www.websphere.org

IBM WebSphere Host Access Transformation Services, Version 7.0 at a glance

Hardware requirements

HATS Toolkit requirements
- Intel® Pentium® III 800 MHz processor minimum (higher recommended)
- 1 GB RAM minimum (2 GB RAM recommended)
- Disk space: 500 MB direct access storage device (DASD) space above what the requisite software delivery platform requires
- Additional disk space required for Web or rich client application resources developed
- Display resolution:1024 x 768 or higher

Software requirements

HATS Toolkit requirements (one of the following)
- Microsoft Windows® XP Professional with Service Pack (SP) 1 and 2
- Windows 2000 Professional with SP 3 and 4
- Windows 2000 Server with SP 3 and 4
- Windows 2000 Advanced Server with SP 3 and 4
- Windows Server 2003 Standard Edition
- Windows Server 2003 Enterprise Edition
- Software delivery platforms (one of the following):
  - IBM Rational Application Developer, Version 7.0
  - IBM Rational Software Architect, Version 7.0
  - IBM WebSphere Developer for System z, Version 7.0
  - IBM WebSphere Development Studio Client, Version 7.0 Standard
  - IBM WebSphere Development Studio Client, Version 7.0 Advanced

Server runtime requirements

HATS enterprise applications can be deployed to the following WebSphere Application Server platforms:
- Windows 2000
- Windows 2003
- Windows XP
- IBM AIX®
- IBM z/OS®
- Sun Solaris Operating Environment
- HP/UX
- Linux® for Intel
- Linux on System z
- Linux on System i
- Linux on IBM System p™

Notes:
- HATS enterprise applications deployed to WebSphere Application Server inherit the software and hardware requirements of the server.
- Each HATS-deployed application requires additional disk space. The minimum disk space required for each HATS application is approximately 40 MB.

IBM WebSphere Host Access Transformation Services, Version 7.0 at a glance (continued)

Server runtime requirements (continued)

One of the following WebSphere Application Server products:
- IBM WebSphere Application Server, Version 5.1.1, 6.0 or 6.1 with appropriate program temporary fixes (PTFs)
- IBM WebSphere Application Server Network Deployment, Version 5.1.1, 6.0 or 6.1 with appropriate PTFs

- IBM WebSphere Application Server for iSeries™, Version 5.1.1, 6.0 or 6.1 with appropriate PTFs
- IBM WebSphere Application Server Network Deployment for iSeries, Version 5.1.1, 6.0 or 6.1 with appropriate PTFs
- IBM WebSphere Application Server - Express, Version 5.1.1, 6.0 or 6.1 with appropriate PTFs
- IBM WebSphere Application Server - Express for iSeries, Version 5.1.1, 6.0 or 6.1 with appropriate PTFs
- IBM WebSphere Application Server for zSeries®, Version 5.1.1, 6.0 or 6.1 with appropriate PTFs
- IBM WebSphere Extended Deployment, Version 6.0 or later

HATS rich client platform support

Lotus Expeditor Client deployment
- IBM Lotus Expeditor, Version 6.1, desktop client (one of the following)
  - Windows XP Professional with SP 1 and 2
  - Windows XP Home Edition with SP 1 and 2
  - Windows 2000 Professional with SP 4
  - Red Hat Enterprise Linux WS, Version 4.0 with GIMP Toolkit (GTK) support - Update 3 with Mozilla, Version 1.7, GTK 2
  - Novell Linux Desktop, Version 9 with SP 2 with Mozilla, Version 1.7 and compat-libstd-++lsb
- Lotus Expeditor, Version 6.1, toolkit (one of the following)
  - Windows XP Professional with SP 1 and 2
  - Red Hat Enterprise Linux WS, Version 4.0 with GTK support - Update 3 with Mozilla, Version 1.7, GTK 2
  - Rational Application Developer V7.0
  - Rational Software Architect V7.0
- Lotus Expeditor, Version 6.1, device runtime environment (DRE) (one of the following)
  - Windows XP Professional with SP 1 and 2
  - Red Hat Enterprise Linux WS, Version 4.0 with GTK support - Update 3 with Mozilla, Version 1.7, GTK 2
  - Lotus Expeditor, Version 6.1, desktop client
  - Lotus Expeditor, Version 6.1, toolkit

Eclipse rich client platform deployment
- Eclipse, Version 3.2 with Eclipse Modeling Framework (EMF) and Service Data Object (SDO), Version 2.2.0 on one of the following platforms:
  - Windows XP Professional with SP 1 and 2
  - Windows XP Home Edition with SP 1 and 2
  - Windows 2000 Professional with SP 4
  - Red Hat Enterprise Linux WS, Version 4.0 WS with GTK support - Update 3 with Mozilla, Version 1.7, GTK 2
  - Novell Linux Desktop, Version with SP 2 with Mozilla, Version 1.7 and compat-libstd-++lsb
- Java Runtime Environment (one of the following)
  - IBM 32-bit Software Development Kit (SDK) for Windows, Java 2 Technology Edition, Version 5.0 service release 1
  - IBM 32-bit SDK for Windows, Java 2 Technology Edition, Version 1.4.2 service release 3
  - IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition, Version 5.0 service release 1
  - IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition, Version 1.4.2 service release 3
  - Sun Java 2 Standard Edition, Version 5.0 with Update 6 for Windows
  - Sun Java 2 Standard Edition, Version 1.4.2_10 for Windows
  - Sun Java 2 Standard Edition, Version 5.0 with Update 6 for Linux x86
  - Sun Java 2 Standard Edition, Version 1.4.2_10 for Linux x86

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Supported browsers

- For Windows: Netscape, Version 7.1, Microsoft Internet Explorer, Version 6.0 with SP1, Mozilla, Version 1.6, Firefox, Version 1.5 or later, or Opera, Version 7.6 or later
- For AIX: Netscape, Version 7.1 or later
- For Sun Solaris Operating Environment: Mozilla, Version 1.6, Firefox, Version 1.5, or Opera, Version 7.6 or later
- For Linux: Netscape, Version 7.1, Opera, Version 7.6, Konqueror, Version 3.2, Mozilla, Version 1.6, or Firefox, Version 1.5 or later
- For Macintosh: Safari, Version 1.2 or later, Netscape, Version 7.1 or later, Firefox, Version 1.5 or later, or Opera 7.6 or later.

Other software requirements

- For 5250 print support: IBM iSeries Access for Web, Version 5.2 or later (available as part of the iSeries Access family)
- To deploy HATS, Version 7.0 portlets: WebSphere Portal, Version 5.1 or 6.0
- For Web express-logon support: Tivoli Access Manager, Version 5.1 or 6.0
- To support HATS and WebFacing runtime interoperability: IBM i5/OS®, Version 5.4 with PTFs, SI25893, SI25894, SI25747

Limitations

- Bidirectional (BIDI) support is available only with Microsoft Internet Explorer, Version 6.0 with SP 1, or Mozilla, Version 1.8 or later.
- Rich client platform support requires that the Java runtime environment (JRE) included in the Lotus Expeditor, Version 6.1 DRE be installed to the software delivery platform.
- In HATS rich client applications, if you use ATOK2006 with Roman input mode, the input mode changes to Kana input mode using the AutoIME function. This is a limitation in the Eclipse environment.