IBM

Rational® software

IBM Rational Host Access Transformation Services, Version 7.1

Highlights

- **Enhances 3270 and 5250 green screens with a user-friendly GUI**

- **Enables you to quickly extend host applications to the Web, rich clients, portals, Web services and now, browsers on mobile devices**

- **Allows you to create SOA assets from logic contained in your terminal applications**

- **Supports mobile devices such as cellular phones, data collection terminals and PDAs**

- **Enables you to create standard JSR 168 IBM Rational HATS portlets**

- **Features a technical preview of the Visual Macro Editor, a new graphical editor for visually developing Rational HATS macros**

- **Provides an optional installable IBM WebFacing Deployment Tool with Rational HATS Toolkit**

- **Enables WebFacing applications to exchange host data with other Web applications via the new WebFacing application bridge**

Today's business users have grown accustomed to the ease of use of modern Web-based applications. But if you're relying on older applications running on the IBM System z™ or IBM i5/OS® platforms, your users are accessing your vital business applications via traditional interfaces such as 3270 and 5250 green screens, which can be inefficient and difficult to use.

However, because the underlying applications have a proven, stable track record and represent a tremendous business investment and value, they can be expensive and risky to replace.

Enterprise modernization solutions from IBM can help you reuse and update these applications with minimal risk by improving their user interfaces, extending their reach and integrating them with other applications. Part of a suite of enterprise modernization solutions, IBM Rational® Host Access Transformation Services (HATS) software can provide a quick and easy way to replace traditional displays with a point-and-click interface. Rational HATS gives you the tools you need to quickly and easily create Web applications, such as portlets, rich client applications and applications targeted for browsers on mobile devices, that provide an easy-to-use GUI for your 3270 and 5250 applications running on IBM System z and IBM i5/OS platforms. Rational HATS consists of the HATS Toolkit, which enables you to create HATS applications, and a HATS runtime to execute them.

You can also use Rational HATS as part of your service-oriented architecture (SOA) strategy. For example, you can use the Rational HATS application to create Web services that provide standard programming interfaces to the business logic and transactions contained within host applications, allowing you to extend the value of your existing, stable assets.
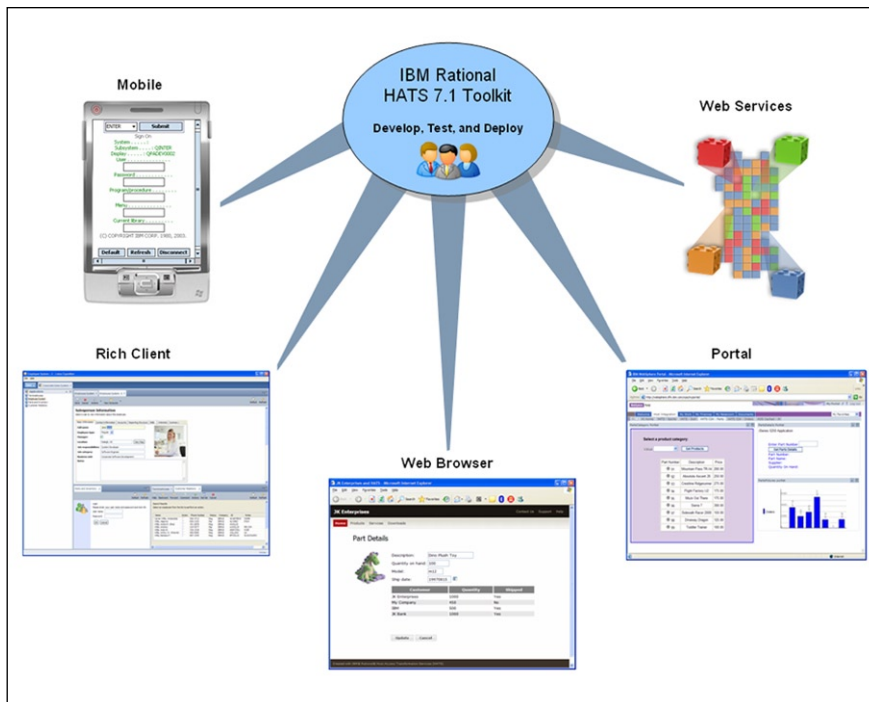
With IBM Rational HATS, you can extend host applications quickly to the Web, portals, a rich client platform, mobile device browsers or as Web services.

A key benefit of Rational HATS is its ease of use. Rational HATS converts host screens to GUIs on the fly, in realtime. And with the Rational 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, your developers can quickly become productive using Rational HATS. In many cases, it's possible to extend your host applications with a familiar GUI within a day of loading the program.

Make your host applications accessible to more users

With the easy-to-use GUI in Rational HATS, you can extend your host applications to the Web, a portlet, a rich client or a mobile device, based on the needs of your users.

Extend your host applications to the Web

Rational HATS features a similar development process for creating Web, portal or rich client applications, making it easy for you to create a GUI that meets your business needs and standards. Further, Rational HATS enables you to hide unnecessary information, organize data into tables or display only required input fields. You can also provide drop-down lists of valid values for an input field, change the size and location of text and provide navigation buttons. After developing a Rational HATS application and deploying it to your production environment, your users interact solely with the Rational HATS application through a Web browser, while it sends data back and forth between the user and the host application.

Access your host applications from mobile devices

With Rational HATS Version 7.1, you can now develop Rational HATS Web applications that provide screen transformation access to your host applications from mobile devices such as cell phones, data collection terminals and personal digital assistants (PDAs). This access can help improve the productivity of an increasingly mobile workforce, broaden your customer base and improve your level of service. Developing an application for mobile devices is similar to developing other Rational HATS Web applications, with a few minor adjustments for the capabilities of the mobile device and its Web browser. For example, Rational HATS now provides column placement support for subfile and table widgets. This feature is useful when displaying table data on a mobile device, because the columns can be arranged or excluded to help fit the table into a smaller browser space.

Deliver your host applications to a rich client

Rational HATS enables you to transform access to your existing host applications using rich client GUI applications that run in Eclipse Rich Client Platform (RCP) or IBM Lotus® Expeditor client environments. Eclipse RCP enables you to use the core Eclipse functionality to build native client applications targeted for a user's desktop. The 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 that aren't available in a traditional Web or portal environment:

- *Improves response time*
- *Offers a richer set of user interface (UI) widgets that facilitate a more native application appearance*
- *Requires neither IBM WebSphere® Application Server nor IBM WebSphere Portal software*
- *Provides distributed, client-side processing, rather than centralized processing on a single server*
- *Provides local 3270E print support directly to the user's Microsoft® Windows® printer without having to go through WebSphere Application Server software.*

Expand your host application through a JSR 168 cooperative portlet

With Rational HATS Version 7.1, you can create HATS portlets that comply with the standard Java™ Specification Request (JSR) 168 application programming interface (API). Cooperative portlets is a term used to describe portlets on a page that interact with each other by sharing information. Web Services for Remote Portlets (WSRP) is a standard that portals can use to provide portlets, applications and content as WSRP services. Other portals can integrate the WSRP services as remote portlets for their users. You can use WSRP services with your portal to provide Rational HATS JSR 168 portlets as remote portlets that can be consumed by other portals.

With Rational HATS JSR 168 portlets, you can allow your users to set connection parameters and global variables in their portlet preferences using portlet edit mode. In addition, you can now use Model 1 Web pages and the *Forward to URL* and *Insert Forward to HATS Application* actions to integrate the use of integration objects with Rational HATS JSR 168 portlets.

Reuse your assets and help reduce your risk

Rational HATS software 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 business tasks contained in host applications

With Rational HATS, you can create Web services that deliver standard programming interfaces to business logic and to transactions contained within host applications. These Web services can be reused as building blocks to develop new internal applications or to integrate with applications outside your enterprise. Your host-based business tasks can then be included in your SOA solutions.

Convert i5/OS DDS members into an easy-to-use Web GUI

Rational HATS Version 7.1 simplifies the integration of HATS with the IBM WebFacing Tool by providing optionally installable WebFacing features. You can now install the IBM WebFacing Tool for IBM System i™ software and portal support features as part of the HATS installation process. The IBM WebFacing Tool for System i feature enables you to convert i5/OS data description specification (DDS) display file source members into a Web-based user interface for your existing 5250 programs, and the portal support feature enables you to deploy these applications to a portal.

Create new aggregate applications

Rational HATS, along with IBM Rational Software Delivery Platform software, 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. Plus, you can use Rational 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, such as Web services, JavaBeans or Enterprise JavaBeans (EJB) components, to implement these SQL queries.

Leverage the industry standards of Eclipse

The IBM Rational 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 transforming traditional screens. The Eclipse platform is an industry-standard application development environment that provides the benefits of a common framework and reusable skill set for the development of Web or RCP-based applications. Integration within Rational Software Delivery 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 among multiple developers.

Customize your host application and boost your productivity

As you extend your host applications to new users, Rational HATS enables you to customize those applications to make them easier to use. You can customize them as much or as little as you like, with the flexibility to extend your Rational HATS implementation over time and on your own schedule.

Create and modify macros visually

Rational HATS Version 7.1 includes a technical preview of the Visual Macro Editor, a new tool for visually developing HATS macros that navigate through and interact with 3270, 5250 or VT host applications. Using the Visual Macro Editor, you can save hours of time creating the macros used in HATS transformation applications and HATS Web Services. The Visual Macro Editor combines many of the features of the HATS Macro Editor, Host Terminal and Advanced Macro Editor into one tool, and allows you to develop macros offline. It provides optional, automatic screen captures as a macro is being recorded in the host terminal. It also allows flows to be copied between macros and provides drag-and-drop support for adding new screens.

Leverage the WebFacing application bridge to enhance i5/OS applications

New to Rational HATS Version 7.1, the WebFacing application bridge allows you to enhance your i5/OS applications by enabling you to implement part of the i5/OS application as a Web application, such as IBM Enterprise Generation Language (EGL), and modernize other parts of the application with WebFacing or Rational HATS. It allows WebFacing to transfer control and data to and from other Web applications, such as EGL, giving you the ability to combine Rational HATS, WebFacing and EGL into a single application.

## Help make your host applications easier to use

The power of Rational HATS lies in its ability to accurately recognize and transform one or more host screens in real time to a GUI according to a set of predetermined rules. The product includes a collection of default rules. 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. The Rational HATS Toolkit includes a variety of options, or widgets, to transform host-screen elements into GUI components, such as 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 and streamline traditional host applications with HATS macros. For example, you can bypass unnecessary screens and combine data from multiple host screens, as well as multiple data sources, into a single HATS screen.

Enhance presentation of your host applications

Not only can Rational 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 Rational 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 virtually any-where 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 appro-priate, without sacrificing the value of your existing applications.

Customize at your own pace

Rational HATS offers tremendous flex-ibility for extending your implementation over time. Rational HATS requires mini-mal 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 can add customizations to the project over time. Because Rational 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 customiza-tion requirements. You can use HATS graphical tools to create your rule sets by selecting the HATS option for the element you want to work with on the screen. You can then select the widget that describes how you want Rational HATS to transform that screen element.
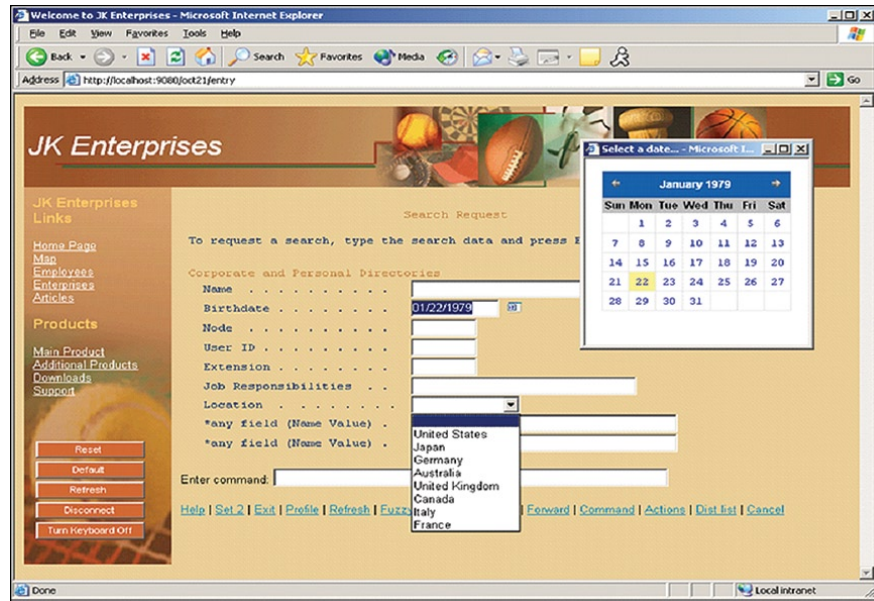
You can add several different GUI components to your screen transformations, such as drop-down lists and calendars.

Help reduce training costs

Training new users on host applications costs time and money. Today's mobile workforce often lacks the time and the inclination to learn how to navigate complex, traditional systems. And your business partners and customers want a familiar interface on which they can become productive right away. With minimal time and resources, Rational HATS can help rejuvenate your host applications, enabling your organization to continue to benefit from its substan-tial investment in critical systems.

IBM Host Integration Solution

IBM Rational HATS is part of the IBM Host Integration Solution (HIS) package for Web-to-host solutions. The following products, including Rational HATS, are available via the IBM Host Integration Solution or as stand-alone products.

- *IBM Rational Host Access Transformation Services (HATS), allowing the extension of legacy applications to end users*
- *IBM Host On-Demand (HOD), supporting 3270, 5250 and virtual terminal emulation and providing programming tools*
- *Personal communications, provid-ing the platform for access to data and applications on midrange and enterprise servers*

IBM Rational Host Access Transformation Services, Version 7.1 requirements at a glance

Processor

Intel® Pentium III 800 MHz processor minimum (higher is recommended)

RAM

1GB RAM minimum (2GB RAM is recommended)

Disk space

500MB direct access storage device (DASD) above what the requisite software delivery platform requires. Additional disk space will be required for Web or rich client application resources developed. Each Rational HATS deployed application requires additional disk space. The minimum disk space required for each Rational HATS application is approximately 40MB.

Display resolution

1024×768 or higher

Operating system

One of the following:

- Microsoft Windows XP Professional operating system with Service Packs 1 and 2
- Microsoft Windows 2000 Professional with Service Packs 3 and 4
- Microsoft Windows 2000 Server with Service Packs 3 and 4
- Microsoft Windows 2000 Advanced Server with Service Packs 3 and 4

- Microsoft Windows Server 2003 Standard Edition
- Microsoft Windows Server 2003 Enterprise Edition
- Microsoft Windows Vista Ultimate
- Microsoft Windows Vista Business
- Microsoft Windows Vista Enterprise

Software delivery platform

One of the following:

- Rational Application Developer V7.0.0.5
- Rational Software Architect V7.0.0.5
- WebSphere Developer for System z V7.0.1.2
- Rational Developer for System i SOA V7.1

- WebSphere Integration Developer V6.1
- Rational Business Developer V7.1
- Rational Developer for System z V7.1

Server runtime environment

One of the following WebSphere Application Server platforms:

- Windows 2000
- Windows 2003
- Windows XP
- Windows Vista
- IBM AIX® platform
- IBM i5/OS platform
- IBM z/OS® platform

- Solaris
- HP/UX
- Linux™ for Intel platform
- Linux on System z platform
- Linux on System i platform
- Linux on IBM System p™ platform

Note: Rational HATS enterprise applications deployed to a WebSphere Application Server inherit the software and hardware requirements of the server.

IBM WebSphere Application Server

One of the following:

- WebSphere Application Server V5.1.x or V6.0 or V6.1 with the latest program temporary fixes (PTFs)
- WebSphere Application Server ND V5.1.x, V6.0 or V6.1 with the latest PTFs
- WebSphere Application Server for System i V5.1.x, V6.0 or V6.1 with the latest PTFs
- WebSphere Application Server ND for System i V5.1.x, V6.0 or V6.1 with the latest PTFs

- WebSphere Application Server Express V5.1.x, V6.0 or V6.1 with the latest PTFs
- WebSphere Application Server Express for System i V5.1.x, V6.0 or V6.1 with the latest PTFs
- WebSphere Application Server for System z V5.1.x or V6.0, or V6.1 with the latest PTFs
- WebSphere Application Server Extended Deployment V6.0 or V6.1 with the latest PTFs

Note: WebFacing applications may also be deployed to the i5/OS integrated Web application server V7.1

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Rational HATS RCP support

Lotus Expeditor client deployment

- *Lotus Expeditor V6.1 or later — client for desktop*

  - Microsoft Windows XP Professional with Service Packs 1 and 2

  - Microsoft Windows XP Home Edition with Service Packs 1 and 2

  - Microsoft Windows 2000 Professional with Service Pack 4

  - RedHat Enterprise Linux 4.0 WS with GIMP Toolkit (GTK) support — Update 4 with Mozilla 1.7, GTK 2

  - Novell Linux Desktop 9 (NLD9) Service Pack 2 with Mozilla 1.7 and compatible

- *Lotus Expeditor V6.1 or later — Toolkit*

  - Microsoft Windows XP Professional with Service Packs 1 and 2

  - RedHat Enterprise Linux 4.0 WS with GTK support — Update 4 with Mozilla 1.7, GTK 2

- *Lotus Expeditor V6.1 or later — Device Runtime Environment (DRE)*

  - Microsoft Windows XP Professional with Service Packs 1 and 2

  - RedHat Enterprise Linux 4.0 WS with GTK support — Update 4 with Mozilla 1.7, GTK 2

  - One of the following software platforms: Lotus Expeditor V6.1 — client for desktop or Lotus Expeditor V6.1 — Toolkit

  - One of the following software delivery platforms: IBM Rational Application Developer V7.0 or IBM Rational Software Architect V7.0

Eclipse RCP deployment

Eclipse V3.2 with Eclipse Modeling Framework (EMF)/Service Data Object (SDO) V2.2.0 or Eclipse V3.3 with EMF/SDO V2.3.0 on one of the following platforms:

- Microsoft Windows XP Professional with Service Packs 1 and 2

- Microsoft Windows XP Home Edition with Service Packs 1 and 2

- Microsoft Windows 2000 Professional with Service Pack 4

- RedHat Enterprise Linux 4.0 WS with GTK support — Update 3 with Mozilla 1.7, GTK 2

- Novell Linux Desktop 9 (NLD9) Service Pack 2 with Mozilla 1.7 and compatible

One of the following Java Runtime Environments (JRE):

- IBM 32-bit software development kit (SDK) for Windows, Java 2 Technology Edition 5.0 service release 4

- IBM 32-bit SDK for Windows, Java 2 Technology Edition 1.4.2 service release 7

- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition 5.0 service release 4

- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition 1.4.2 service release 7

- Sun Java 2 Standard Edition 5.0 Update 11 for Microsoft Windows

- Sun Java 2 Standard Edition 1.4.2_14 for Microsoft Windows

- Sun Java 2 Standard Edition 5.0 Update 11 for Linux x86

- Sun Java 2 Standard Edition 1.4.2_13 for Linux x86

Web browser

- Windows requires Netscape 7.1 or later, Microsoft Internet Explorer 6.0 with SP1 or later, Mozilla 1.6 or later, Firefox 1.5 or later, Opera 7.6 or later

- AIX platform requires Netscape 7.1 or later

- Solaris requires Mozilla 1.6, Firefox 1.5, Opera 7.6 or later

- Linux requires Netscape 7.1 or later, Opera 7.6, Konqueror 3.2, Mozilla 1.6, Firefox 1.5 or later

- Macintosh requires Safari 1.2, Netscape 7.1 or later, Firefox 1.5, Opera 7.6 or later

- Windows Mobile requires Internet Explorer Mobile 5.0 or later

Note: Because Netscape is end of life, support for Netscape will be eliminated in the next release of Rational HATS software.

Other software requirements

- 5250 print support requires IBM System i Access for Web V5.2 or later (Note: this is available as part of the System i Access family).

- IBM WebSphere Portal V5.1.0.x or V6.0.x is required for deployment of Rational HATS V7 portlets.

- IBM Tivoli® Access Manager V5.1 or V6.0 software is required for Web Express Logon support.

- The following i5/OS V5R4 PTFs are required to support Rational HATS or WebFacing runtime interoperability: SI25893, SI25894, SI25747.

Limitations

- BIDI support is available only with Internet Explorer 6.0 with SP 1 or later, or Mozilla 1.8 or later.

- BIDI support is not available for Web applications targeted for browsers on mobile devices.

- RCP support requires that the JRE included in the Lotus Expeditor V6.1 DRE be installed to the software delivery platform.

- In Rational 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.

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For more information

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Rational Host Access Transformation
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