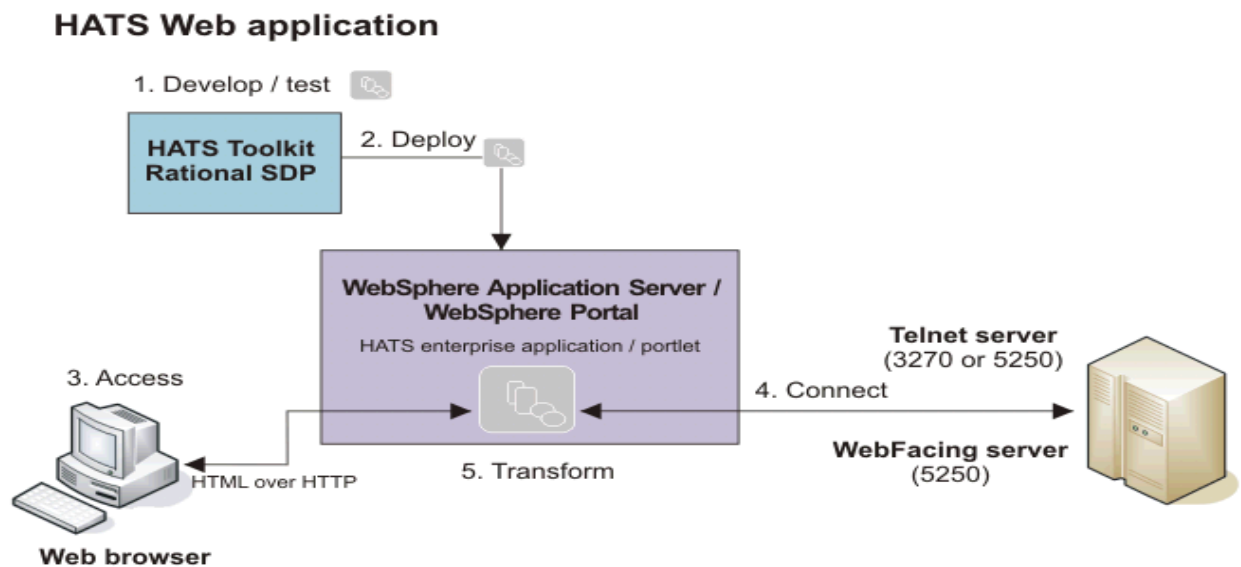


HATS 7.0 – Features

Introductions

Host Access Transformation Service (HATS), enables users to create web applications, it transforms 3270 and 5250 host terminal screens into Web pages that are part of an application running in WebSphere Application Server. End users access the pages from their Web browsers and use the pages to send and receive data to and from the host application. HATS can even be used to build industry-standard Web services to leverage host applications in a services-oriented architecture (SOA).

Figure 1. HATS Web application



The following figure shows the stages of development, deployment, and runtime for a HATS rich client application.

With HATS, users can also create Web services that deliver standard programming interfaces to business logic and transactions contained within host applications. Version 7.0 of HATS includes Eclipse Rich Client Platform support, simplified combination of multiple screens of tabular data, conversion of HATS table component data to a spreadsheet file, integration of Host Simulator tool with HATS toolkit to allow easier "offline" HATS development, and HATS and WebFacing application runtime interoperability.

HATS VERSION 7.0 _____ at a GLANCE

New functions in HATS Version 7.0 include support for running HATS applications in new environments, new capabilities for creating graphical user interfaces for host applications, and improved ease of use.

The focus for HATS V7.0 is to expand deployment of HATS applications to the Rich Client Platform and to allow developer efficiencies.

- ✚ Rich client platform support
- ✚ Simplified combination of multiple screens of tabular data
- ✚ HATS and WebFacing application run-time interoperability
- ✚ Integration of host simulation tool to allow easier offline development
- ✚ IBM Support Assistant (ISA) plug-in support
- ✚ Conversion of HATS table component data to a spreadsheet file
- ✚ Improved rendering patterns for transformations
- ✚ Improved testing modes
- ✚ New and improved host components and widgets
- ✚ New project themes wizard
- ✚ Expanded print support configuration
- ✚ Enhanced default rendering
- ✚ New client setting configurations
- ✚ New support for DBCS 3270 and 5250 fields
- ✚ Enhanced subfile column detections and settings
- ✚ Global rules enhancements

1. *Eclipse Rich Client Platform (Eclipse RCP) support:* HATS gives user the ability to transform access to the existing host applications using rich-client GUI applications that run in Eclipse RCP or Lotus Expeditor Client environments.

Eclipse RCP: The Eclipse RCP is a subset of plug-ins provided by the Eclipse platform, which is best known as an open source tooling platform. The introduction of Eclipse RCP enables users to use the core functionality provided by Eclipse to build native client applications targeted for a user's desktop.

Lotus Expeditor Client delivers a rich-client, run-time environment and integrated middleware components for extending many enterprise applications to server-managed laptop and desktop systems.

What Rich-Client Environment Offers:

A rich-client environment can offer capabilities not available in a traditional Web environment, including:

- i. Improved response time
- ii. Richer set of user interface (UI) widgets, which provide for a more native application appearance, for example, native tab folder control, editable combo boxes, toolbars, menu bars, and tables
- iii. No dependency on WebSphere Application Server or WebSphere Portal
- iv. Client side processing (distributed, not centralized on a single server)
- v. Printing 3270E print jobs directly to a user's local printer

2. *Simplified combination of multiple screens of tabular data:* In order to combine data from multiple host screens a new screen combination wizard and editor are provided to make it easier by using a repeatable system of navigation.

The wizard and editor allow a method to define the screen recognition criteria for the beginning and ending screens, how to navigate from screen to screen, the screen region containing the data to gather, and the component and widget to use to recognize and render the gathered data.

3. *HATS and WebFacing application run-time 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, which needs to interact with a host application that has been transformed using the HATS tool.

This function 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.

4. *Integration of Host Simulator tool with HAT toolkit to allow easier "offline" HATS development:* The HATS Toolkit includes a host simulation capability. With this capability, user can record host simulation trace files that can be saved and then

used instead of a live host connection. Following are ways user can use host simulation files instead of using a live host connection:

- i. Create screen captures, screen events, and screen transformations using the host terminal function
- ii. Create and test macros using the host terminal function
- iii. Test HATS applications using the Rational SDP local test environment
- iv. Deploy HATS applications to a run-time environment to use as demonstrations

In addition, the host simulation capability can be used in troubleshooting by allowing user to record a host simulation file in the run-time environment that user can use, along with other traces and logs, to document a failing scenario.

5. *IBM Support Assistant (ISA) plug-in support:* HATS provides a plug-in for ISA V3.0. The HATS plug-in provides links to the HATS home page, support site, education assistant site, and other sites. User can search these sites for information that may help to resolve a problem.

Actually, The IBM Support Assistant (ISA) saves user time searching product, support and educational resources. If a Problem Management Record (PMR) needs to be opened, ISA helps you gather support information, then create and track the electronic problem report. ISA is a free stand-alone application that can be install on any workstation, then enhance by installing plug-in modules for the IBM products use. Further query can be made on ISA Web site at <http://www.ibm.com/software/support/isa/>.

6. *Conversion of HATS table component data to a spreadsheet file:* HATS allows host data to be converted to a format that is easily consumed by a spreadsheet program. At runtime, the Table widget will generate a temporary .csv file or .xls of the table and provide a button or link as part of its output. When an end user clicks the button, the (already generated) file would be retrieved and opened appropriately on the end user's machine.
7. *Improved Rendering patterns for transformations:* When user create a new transformation for a host screen, user select a rendering pattern to use for the transformation. In addition to the Blank and Prepopulated (now named Prepopulated using Default Rendering) patterns, HATS now delivers two new patterns, Default Rendering and Prepopulated using Fields, from which user can select.

Default Rendering pattern creates a new transformation that displays with default rendering at runtime. With this pattern, user can use default rendering with a non-default rendering set, or use default rendering and add individual components using the Insert Host Components wizard. An Options button is provided to select the rendering set to use. If user select the **Use the default rendering set** check box, the default rendering set that is current at runtime is applied. If user clears the check box, user can select a specific rendering set to always use.

Prepopulated using Fields pattern creates a new transformation prefilled with labels and input fields that can be customized using the Edit Host Component wizard. A Preview button is provided to display the transformation using the selected pattern.

8. *Improved testing modes:* The Run on Server (for Web projects) and Run (for rich-client projects) testing modes can be used to modify and test the run-time settings, defined in the runtime.properties file, that are deployed to the production environment. The Debug on Server (for Web projects) and Debug (for rich-client projects) testing modes can be used to modify and test run-time settings without modifying the settings, defined in the runtime.properties file, that are deployed to the production environment.

9. *New and improved host components and widgets:* Host components are HATS objects that are responsible for recognizing elements of the host screen. Widgets are HATS objects that are responsible for rendering recognized host components in a GUI for a host screen. Following are new host components and widgets and some of the new settings for existing components and widgets provided in HATS Version 7.0. Highlights include a new Table component, new List, Subfile, Combo (RCP only), and Toolbar (RCP only) widgets, and a new option on the Table widget that allows the user to retrieve table data in spreadsheet file format.
 - **Host components**
 - *Field* — Support character level attributes for protected fields: This new setting allows user to accurately render the color and extended attributes of all characters in a protected field, instead of rendering the entire field with the color and attributes of the first character in the field.
 - *Light pen (attention):* The light pen (attention) component is responsible for recognizing a light pen (also known as selection pen) attention field on 3270 host screens. This component is now included in the HATS Toolkit user

interface and no longer must be manually defined in the HATS source files.

- *Light pen (selection)*: The light pen (selection) component is responsible for recognizing a light pen (also known as selection pen) selection field on 3270 host screens. This component is now included in the HATS Toolkit user interface and no longer must be manually defined in the HATS source files.
- *Table*: The Table component is responsible for recognizing tables. It can be used instead of the Table (visual) component if user must indicate specific column numbers to use for column breaks in order to achieve the result user want.

- **Widgets**

- *Combo (RCP only)*: The Combo widget is responsible for rendering editable drop-down combination boxes.
- *Field* — Allow tabbing using links (Web-only): Specifies whether each protected field is rendered as an HTML link which allows tabbing between protected fields.

Note: Selecting this option causes an HTML anchor (A) tag to be generated for each protected field on the page and as a result increases the size of the Web page.

This setting is now included in the HATS Toolkit user interface and no longer must be manually defined in the HATS source files. Also, to avoid unnecessarily increasing the size of the resulting Web page, this option has been changed so that it is not selected by default.

- *List*: The List widget is responsible for rendering list boxes. It is now included in the HATS Toolkit user interface and no longer must be manually defined in the HATS source files.
- *Subfile (check box)*: The Subfile (check box) widget is responsible for rendering a 5250 subfile and providing the use of check boxes for making selections.
- *Subfile (popup)*: The Subfile (popup) widget is responsible for rendering a 5250 subfile and providing the use of items on a pop-up menu for making selections.
- *Toolbar (RCP only)*: The Toolbar widget enables user to render function key and selection list items as buttons on a toolbar.

10. *Project themes*: A new project theme wizard provides a simple method of setting, and later changing, a theme for the overall appearance and behavior of a HATS application. Using the wizard user can select whether user want the application to appear more like an emulator, more like a modern application, or a custom setting somewhere in between.

There are many options in the HATS project settings that change the appearance and behavior of the application. For example, options like Show OIA, Enable auto advance, and Enable overwrite mode can be used to enable a HATS application to behave more like an emulator. The new wizard provides a convenient method of setting the options in one place that together can be treated as a theme.

11. *Print support configuration*: The current set of print definitions has been expanded and reorganized in the connection settings editor. A new printing tab is now the central location for all print support definitions associated with the connection. In addition, for 3270E connections, the configuration information includes an easy method of defining the supported settings from the list of WebSphere Host On-Demand printer settings.

Using these settings user can more easily configure HATS to print directly to a server-attached default Windows™ printer (Web-only), to print directly to a client-attached default Windows printer (RCP only), or to use Host On-Demand Printer Definition Table (PDT) files for specific non-Windows customized printer types. This function enables user to create advanced printing applications without having to pass in multiple print settings using Web site overrides.

12. *Default rendering enhancement*: A new setting allows user to specify that default rendering should be used if nothing is recognized to render during transformation of a HATS component. This function is particularly useful when an application contains screens with fields that may switch between an unprotected and protected state. For example, if this function is not used and an input component is being used to recognize a region, nothing will be recognized and rendered if the field switches to a protected attribute. This setting can be specified at the project level and at the individual component level in a screen transformation.

13. *Client settings configuration*: In the project settings editor on the other tab, there is a new section named Client Settings. This new section provides a central location for specifying client side settings, eliminating the need to modify HATS source files. The following settings are available.

- *Enable HTTP compression (Web only)*: Specifies the use of HTTP compression to help reduce the number of bytes being transferred between the HATS runtime, which is running on the WebSphere Application Server, and the user's browser. This can reduce the transfer time between the HATS runtime and the browser (which helps improve response time) and can reduce the number of bytes flowing in the network (which helps improve network utilization).
- *Suppress sending unmodified fields*: Specifies that HATS should not send modified input field data to the host when the contents of the field are identical to the data supplied by the host.
- *Include protected, read-only labels in default tab order (RCP only)*: Specifies that the default tabbing order of fields on the transformation view should include protected, read-only fields.
- *Enable auto advance*: Specifies that when a user completely fills an input field with data, focus automatically advances to the next input field.
- *Include host and non-host input fields*: Specifies that when auto advance is enabled, focus automatically advances to the next input field in the order of the input fields on the transformed screen without regard to the order of the input fields on the host screen.
If not specified when auto advance is enabled, focus automatically advances to the next input field in the order of the input fields on the host screen
- *Enable overwrite mode (Web only)*: Specifies the use of enable overwrite mode (if it is supported by the browser). If enabled, text entered into an input field overwrites text at the cursor position one character at a time. If not enabled, text entered into an input field is inserted at the cursor position pushing existing text ahead.
- *Select all text on focus*: Select this box if user wants all text in a field to be selected when the field receives focus, which is typical behavior for a Web application. Clear this box if user wants no text selected when the field receives focus, which is typical behavior for a terminal emulator.
- *Enable busy page (Web only)*: Specifies whether a busy-page message is displayed when multiple requests are submitted by the user before processing has completed on the initial request.

14. *New support For DBCS 3270 and 5250 fields:* New support for all types of DBCS 3270 and 5250 fields is provided including data type checking, field length checking, copy and paste prevention, and AutoIME switching based on field types.

15. *Enhanced subfile column detections and settings:*

- *Column Break:* To improve the ability to recognize columns in subfiles, a new setting, Column breaks, is provided on the Data tab of the subfile component. This setting allows user to identify the column locations and display the resulting column splits in the host screen view in real time. The setting defaults to values identified when table (visual) recognition is performed on the selection area. User can adjust these values as needed.
- *No visual text is required:* This new setting on the Marker tab of the subfile component allows user to specify that a subfile end marker can be a high intensity field with no text.

16. *Global rules enhancements*

- *Screen-level global rules:* Global rules enable pattern recognition and transformation of host input fields and work with customized and non-customized (default rendered) screens. They can now be defined at both the project level and at the screen level. Screen-level global rules allow user to use default rendering for a screen and in addition customize the input fields on the screen. For example, by using the new Find input fields within a specified region pattern type in user screen-level global rule, user can pinpoint an input field to customize on a screen, (data within a table), while still using default rendering for the screen.
- *New pattern type:* The new Find input fields within a specified region pattern type recognizes any input field located within a host screen region as specified by start row, start column, end row, and end column. Optionally, a field length can be specified to further define the input fields to locate within the region.

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