



Session: 450086

@server® iSeries.

Enhance your 5250 GUI access with HATS LE

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Agenda



HATS LE

- What Is It?
- Packaging / Ordering
- System requirements
- How to set up
- Using it

Did you know that HATS Limited Edition (HATS LE) is included in the iSeries Access Family product?

- HATS LE is an on-the-fly 'green screen eliminator' that requires no programming to use. Simply install it and see how your users can work with all their iSeries screens and applications in a modern, GUI view.
- HATS LE eliminates PC network administration and desktop configuration as everything runs on the iSeries as it simply sends HTML to the browser.
- See how HATS LE compares to HATS and iSeries Access for Web. By the end of this session, you will:
 1. Understand the capabilities of HATS LE.
 2. See how to use it in an iSeries network.
 3. Know what steps to take next in order to start using it



What is HATS LE



Host Access Transformation Services Limited Edition

- 5250 emulator that is used through a browser
- Servlet - entire product runs on web application server, nothing to install or configure at the desktop

Available only in iSeries Access Family, 5722-XW1

- Automatically ships with 5722-XW1 orders
- No additional charge for HATS LE (beyond the cost of 5722-XW1)



A quick and easy way to web-enable your iSeries applications and screens

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HATS LE Features...



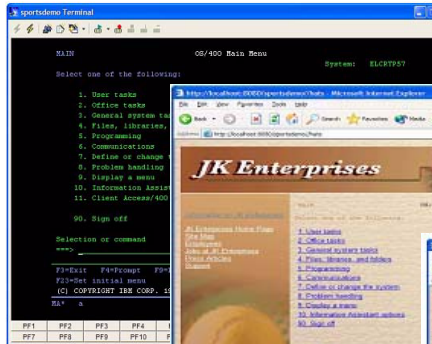
- **Runs in a browser**
 - Delivers HTML to the desktop
 - Only software needed on the client is a Web browser
 - Uses browser SSL features
- **Works on all 5250 screens**
 - Stock Templates included so you can quickly personalize your web page to your company look and feel
- **Screens are converted on the fly, in real time**
 - Selection lists can be converted to hot links, buttons, drop-down menus, or option lists (radio buttons)
 - PF keys are can be converted to buttons or hot links
- **No programming necessary**
 - Doesn't break if changes are made to 5250 application
 - No need to access source code



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IBM HATS LE – real-time screen conversion



Traditional green screen



Links



Drop-down menu

HATS LE on-the-fly conversion using customer provided HTML (logo and graphics)

IBM Special Handling for Subfiles



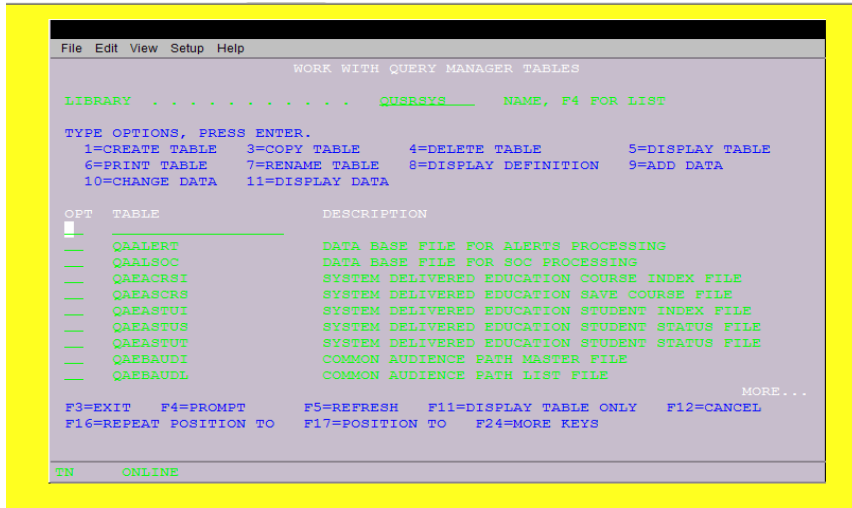
HATS LE has special default code to handle 'subfiles'.

- Ran command 'STRQM'
- Selected 'Work with Query Manager Tables'

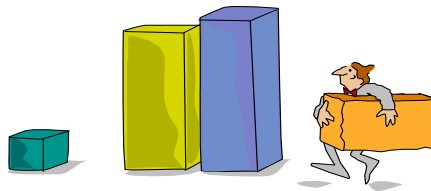




Compare to another 5250-based browser emulator



Packaging and Ordering





iSeries Access Family Content



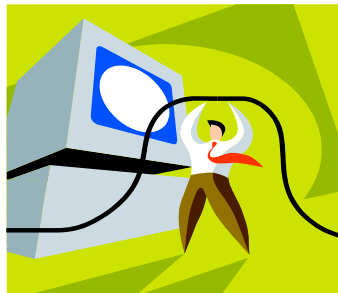
V5R3 iSeries Access Family 5722-XW1	V5R2 iSeries Access Family 5722-XW1
<ul style="list-style-type: none"> iSeries Access for Web (5722-XH2) – V5R3 iSeries Access for Windows (5722-XE1) – V5R3 	<ul style="list-style-type: none"> iSeries Access for Web (5722-XH2) – V5R2 iSeries Access for Windows (5722-XE1) – V5R2
<ul style="list-style-type: none"> HATS Limited Edition (5724-F97-01) – V5 	<ul style="list-style-type: none"> HATS Limited Edition (5724-D34-01) – V4
<ul style="list-style-type: none"> iSeries Access for Wireless (5722-XP1) – V5R2 	<ul style="list-style-type: none"> iSeries Access for Wireless (5722-XP1) – V5R2
<ul style="list-style-type: none"> iSeries Access for Linux (5722-XL1) 	<ul style="list-style-type: none"> WebSphere Host Publisher (5724-B81, V4.0, 5724-B81, V4.01)
	<p>V5R2 customers not wanting to upgrade to OS/400 V5R3 but want the new V5R3 iSeries Access Family clients can order no-charge Feature No. 2647 of Product No. 5722-XW1</p>



OS/400 V5R1
 •EOM was 12/2003
 •EOS was extended from 5/31/2004 to 9/30/2005



Hardware and Software Requirements





Client Requirements



Browser	Windows	Solaris	Linux	Macintosh	AIX
Internet Explorer 5.2.3+				✓	
Netscape 6.2+	✓				
Netscape 7.0+	✓	✓		✓	✓
Opera 5.0+	✓		✓		
Konqueror 3.1+			✓		
Safari 1.0+				✓	
Mozilla 1.2.1	✓	✓	✓		✓
Internet Explorer 5.5+	✓				

OS/400 V5R2 and V5R3



Mozilla



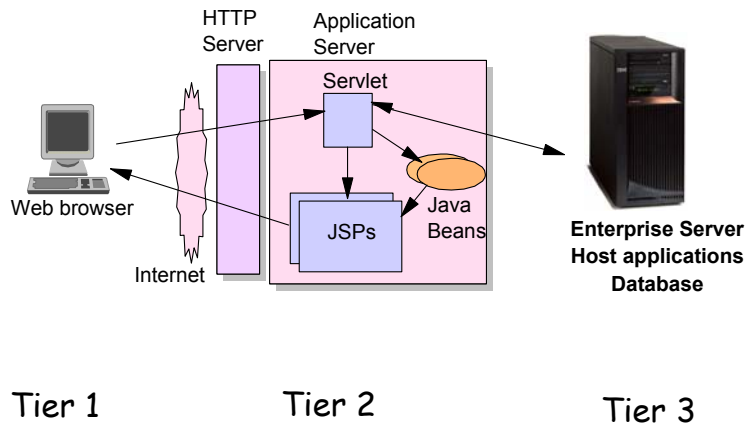
Any desktop with one of the above browsers

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First You Need A Web Application Server



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IBM Web Application Server Options



There are several Web applications servers that can run on iSeries:

- **WebSphere Application Server -- Express V5.1**



• 300 CPW
• 512 MB memory

- Also WAS Version 5.1 Base and Network Deployment

- **WebSphere Application Server Version 5.0 Express for iSeries**



• 300 CPW
• 512 MB memory

- Also WAS Version 5.0 Base and Network Deployment

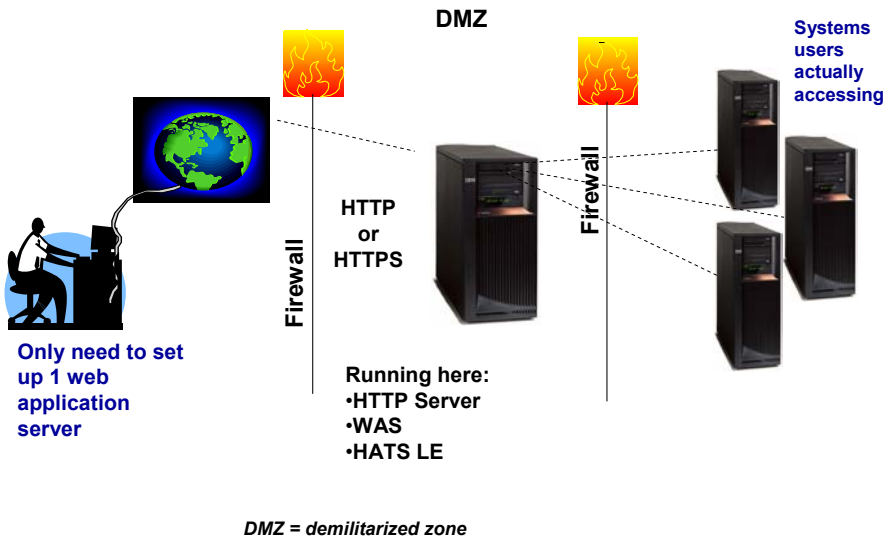
- WebSphere Application Server Advanced Edition Single Server V4

- WebSphere Application Server Advanced Edition V4

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IBM Setting up your web application server



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Port Requirements Comparison



iSeries Access for Windows (5722-XE1)* or Host On-Demand

- Port 449 for Port Mapper
- Port 8476 (9476) for Sign-on
- Port 8470 (9470) for Central
- Port 8472 (9472) for Data Queues
- Port 8471 (9471) for Database
- Port 8475 (9475) for Remote Commands
- Port 8473 (9493) for Print
- Port 2001 (2010) for Web Admin
- Port 446 (448) for DDM
- Port 23 (992) for Telnet
- Port 137, 138 for NetServer
- Port 8480 for USF
- Port 389 (636) for LDAP
- Port 5555 (5566) for Mgmt Central
- Port 53 if using DNS Server

HATS LE

- Port 80 (or any other port) for HTTP Server
- Port 443 (or any other port) for HTTPS Server

*See Information APAR II12227 for detailed information

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Performance Considerations...



Does running Access for Web affect server performance?

- Products like Access for Web and HATS LE don't put much strain on the system...

How does the web application server affect performance?

- If you have an older, under-powered iSeries, then performance may not be good...if you have a newer, bigger iSeries, then performance won't be an issue (unless you already are running your system at maximum capacity).
- Use the **IBM eServer Workload Estimator** to see what performance will be if WAS is added to your system at: <http://www-912.ibm.com/wle/EstimatorServlet>
- There is also a **Workload Estimator for HATS** workloads. HATS LE performance is similar to HATS.

Fine-tuning your web application server

- The **WebSphere Application Server Buying and Selling Guide, Chapter 4**, contains many good tips for getting WAS to perform optimally.
- Go to the iSeries WebSphere web page at <http://www-1.ibm.com/servers/eserver/iseries/software/websphere/index2.html>

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Workload Estimator for HATS



<http://www-912.ibm.com/wle/EstimatorServlet>

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HATS LE Internationalization



For Desktop users

- Through the browser interface users set up their code pages, text sizes, colors, etc. Keyboard handling is also set up by the desktop user.
- iSeries server supports extensive numbers of NLVs
 - Since HATS LE is emulating 5250 host screens, all information will be displayed in whatever NLV has been set up on iSeries.

For HATS LE Administrators

- The HATS LE Administration Console functions are shipped in the following NLVs
 - Turkish (new in V5)
 - English, French, German, Italian, Japanese, Korean, Portuguese/Brazilian, Simplified Chinese, Spanish, Traditional Chinese



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•HTTP running
•WAS running



Let's Get Started



Steps that need to be done...

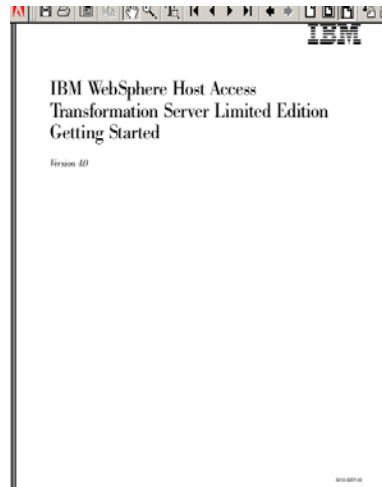
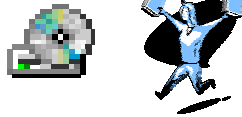
1. Install HATS LE on iSeries
2. Configure HATS LE
3. Start using HATS LE



IBM Find the CD and Print the Documentation...



- HATS LE is shipped on a separate CD called "WebSphere Host Access Transformation Services Limited Edition"
 - Number SK3T-8162
- The 'HATS LE Getting Started' documentation and README information is on the above CD
 - These .PDFs are also on iSeries Access Family - HATS LE web page at www.ibm.com/eserver/iseries/access/hatsle



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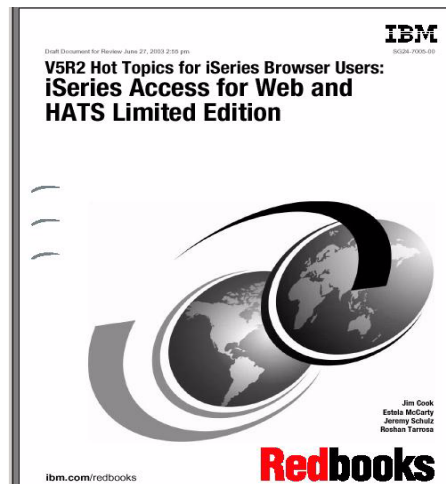
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IBM Redbook



**Redbook...
SG24-7005-00**

- Download it from iSeries Access Web page at
- www.ibm.com/eserver/iseries/access/hatsle



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Install and Start HATS LE V5



1. Copy HATS LE ear file from your CD to WAS directory

- You must move the HATS5LE.ear file from the HATS LE V5 CD into the InstallableApps directory of WebSphere Application Server.
- For example, for WebSphere Application Server V5.0 Express for iSeries, you could copy HATS5LE.ear to QIBM/UserData/WebASE/ASE5/<instance>/InstallableApps, where <instance> is the name of the application server instance on which you are installing HATS LE.

2. Start the WebSphere Administrative Console in your browser.

- In the left column, expand Applications and click Install New Application.
- Browse the QIBM path above and find HATS5LE.ear
- Continue clicking Next until you reach the Summary screen. Click Finish.
- Click the link to Save to Master Configuration. Click Save.

3. You will return to the main page of the WebSphere Administrative Console.

- In the left column, expand Applications and click Enterprise Applications.
- In the right frame, click the check box next to HATS5LE.ear, and click Start.
- In the left column, expand Environment, click on Update Web Server Plugin then Click OK.

Basically follow directions in the The 'HATS LE Getting Started' documentation and README information that is on the HATS LE V5 CD to get the .ear file installed under WAS.



http:<myiseries>:2001



iSeries Tasks



Wizards to work with your WAS server



[IBM HTTP Server for iSeries](#)

Configure the iSeries HTTP Server and SSL



[IBM WebSphere Application Server - Express for iSeries](#)

Configure application servers and deploy applications



[Digital Certificate Manager](#)

Create, distribute, and manage Digital Certificates



[IBM IPP Server for iSeries](#)

Configure the IBM IPP Server



[4758 Cryptographic Coprocessor](#)

Configure the 4758 coprocessor

[Related task information](#)



Help
(Requires JavaScript)

IBM Install HATS LE into WAS



Current Configuration Instance: "default" Server: "server1"		
Manage Virtual Hosts	Manage Installed Applications	Manage Data Sources
<input checked="" type="checkbox"/> default_host	<input checked="" type="checkbox"/> DefaultApplication	<input checked="" type="checkbox"/> Default Datasource
<input checked="" type="checkbox"/> admin_host	<input checked="" type="checkbox"/> adminconsole	
	<input checked="" type="checkbox"/> vApp	

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IBM Steps that need to be done...



- 1. Install HATS LE on iSeries**
- 2. Configure HATS LE**
 - a. Set up connection settings**
 - b. Define default template to be used**
 - c. Set up default transformation settings**
- 3. Start using HATS LE**



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<http://serverName/HATSLE/admin>

A web-based tool for iSeries administrators to configure and manage the HATS LE environment

- Launch the Configuration Wizard
- Manage active connections
- Tweak configuration changes
- Activate/deactivate the application

Connection	Host name	Port	Code page	Workstation ID	SSL enabled
iseriesa	localhost	23	037 United States	From value: CMINER**	No
iseriesd	localhost	23	037 United States	Prompt user	No

Different than the WAS administrative console

- Requires SECADM authority

- You can get to the Configuration Wizard from the Administrative Console or go directly to it by keying in:

– <http://serverName/HATSLE/config>

Welcome to HATS Limited Edition

HATS Limited Edition allows you to quickly Web-enable your legacy host applications. This wizard will guide you through the steps in configuring this application.

Status: This application is active. There are 5 active sessions connected to this application. Note: Configuration changes can affect the current users of this application.

Warning: The following users are also configuring this application: hptest@cmminer2.rochester.ibm.com

Continue



Configuration Wizard consists of 3 screens



Set up connection settings

Configure your host connection settings. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step. For more information, click the Help icon above.

1

Connection:

Description:

Host name: localhost

Port: 23

Code page: 037 United States

Enable screen reverse (if applicable)
 Enable Unicode data streaming (if applicable)

Workstation ID:
 Server assigned
 Set to value (wildcards allowed):
 Set from HTTP session variable:
 Prompt user

Security:
 Enable SSL (Secure Sockets Layer)
 Certificate file:

Set up default transformation settings

Select a template for your application. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step.

2

Blank.jsp
 ClassicTerminal.jsp
 CorporateBanner.jsp
 iSeriesAccess.jsp
 Swift.jsp

show application keypad
 show host keypad
 Allow users to interact with the host using their keyboards

To preview how your customized template will appear, click the Preview button.

Transformation Settings

Select how to render your transformed host screens. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step.

3

<input checked="" type="checkbox"/> Detect function keys	Render as:	<input type="radio"/> Button <input checked="" type="radio"/> Link	<input type="button" value="Settings..."/>
<input checked="" type="checkbox"/> Detect selection lists	Render as:	<input type="radio"/> Button <input checked="" type="radio"/> Link <input type="radio"/> Button table <input type="radio"/> Dropdown list	<input type="button" value="Settings..."/>
<input type="checkbox"/> Detect tables			<input type="button" value="Settings..."/>
<input checked="" type="checkbox"/> Detect subtitles			<input type="button" value="Settings..."/>
<input checked="" type="checkbox"/> Detect fields	Fields are always detected.		

Define template to be used

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Connection Settings



- **Connection**
 - System I want users to connect to
 - Doesn't have to be system where WAS or HATS LE is running
- **Port**
- **Code page**
- **Workstation ID**
- **Security - SSL**

Configure your host connection settings. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step. For more information, click the Help icon above.

Connection:

Description:

Host name: localhost

Port: 23

Code page: 037 United States

Enable screen reverse (if applicable)
 Enable Unicode data streaming (if applicable)

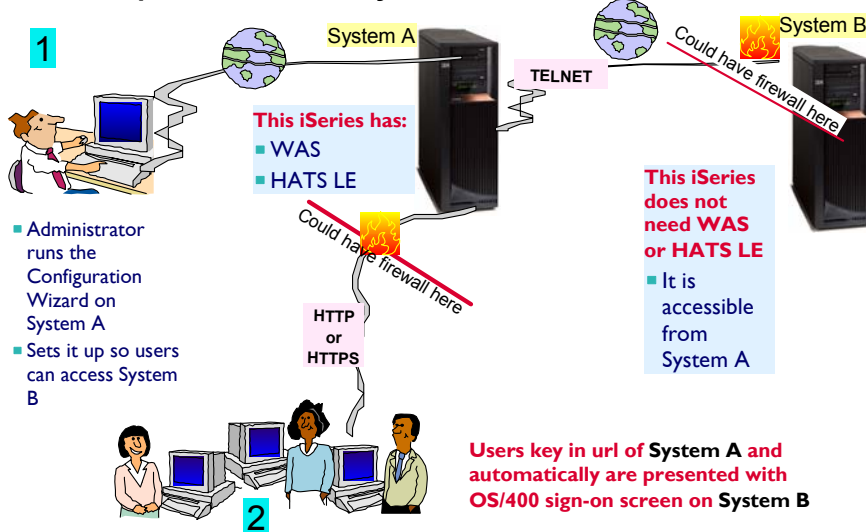
Workstation ID:
 Server assigned
 Set to value (wildcards allowed):
 Set from HTTP session variable:
 Prompt user

Security:
 Enable SSL (Secure Sockets Layer)
 Certificate file:

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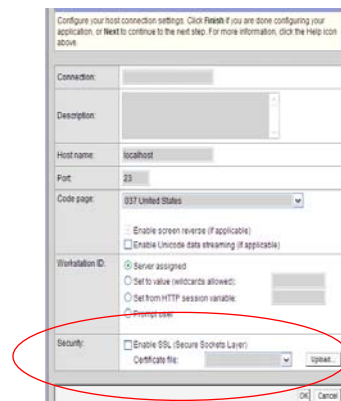
Can set up to connect to any iSeries...



SSL...what this means

• HTTP Server

- Is where you define SSL between end user and iSeries server that WAS and HATS LE are running
- Check the SSL box only if you want to implement Secure Socket Layer (SSL) security between your HATS LE and the application on the host server
 - If you have a file from which the SSL certificate should be imported, select the file name from the drop-down list or click Upload to locate the file.
 - If a file is selected in the drop-down list but you do not want to use a certificate file, select the blank entry in the list.





Workstation ID Options



Workstation ID

- **Server assigned (default)**
 - Server assigned gets a Display name of QPA...
- Set to a value
- Set from an HTTP session variable
- Prompt user

Workstation ID:

Server assigned

Set to value (wildcards allowed):

Set from HTTP session variable:

Prompt user

Sign On

System ELCRIP97

Subsystem QBASE

Display QPADEV0004

User

Password

Program/procedure

Menu

Current library



Setting Workstation ID to a Value



Workstation ID

- **Set to a value (wildcards allowed)**
 - Supply a string from which the workstation ID will be created.
 - Include at least one wildcard character or only the first user will gain access to the application.
 - 1 wildcard character enables 10 sessions to connect

Workstation ID:

Server assigned

Set to value (wildcards allowed):

Set from HTTP session variable:

Prompt user

CMINER*

My Company

Sign On

System QJL10A8

Subsystem QJCRS8

Display QJCRS8T

User

Password

Program/procedure

Menu

Current library

RELEASE: V05R02M00

OS/390: 2N0717

USE OF THIS SYSTEM IS FOR IBM MANAGEMENT APPROVED PURPOSES ONLY.
USE IS SUBJECT TO ACCEPT AS ANY TIME BY IBM MANAGEMENT.



Prompt User



Workstation ID

- **Prompt User**

- User must enter a workstation ID
- Then user gets the OS/400 sign-on screen

- **Note:** Now the Display name has the Workstation ID provided by the user



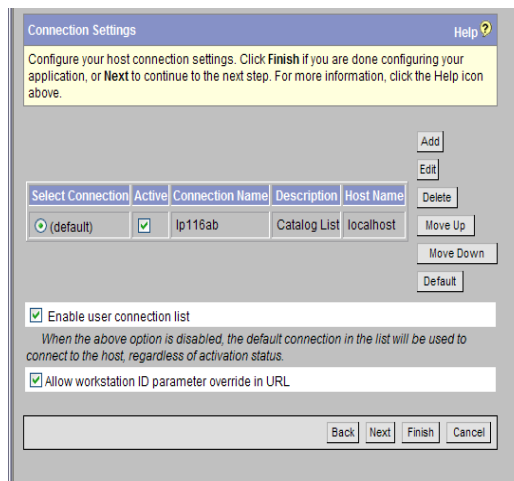
Finished with 'Connection' page



- Will then see the connection we have just configured

- Press Next key to continue with this configuration

- For only 1 connection, remove check for 'Enable user connection list'





http://<servername>/HATSLE/entry?workstationID=value

- Regardless of the method you select for setting the workstation ID, you can also enable your users to override the value by adding it to their HATS LE URL
- Check the Allow workstation ID parameter override in URL box to enable overriding.
 - where value can contain ten characters including A-Z, 0-9, .(period), _(underscore), @(commercial), #(hash), and \$(dollar sign).
 - You must escape # and \$ with %23 and %24, respectively, so workstationID=abc#\$3 must be coded as workstationID=abc%23%243

Select Connection	Active	Connection Name	Description	Host Name
(default)	<input checked="" type="checkbox"/>	Sales	System in Raleigh	localhost
	<input checked="" type="checkbox"/>	Accounting	System in Rochester	localhost

Enable user connection list
When the above option is disabled, the default connection in the list will be used to connect to the host, regardless of activation status.

Allow workstation ID parameter override in URL

Buttons: Back, Next, Finish, Cancel

1. Install HATS LE on iSeries
2. Configure HATS LE
 - a. Set up connection settings
 - b. **Define default template to be used**
 - c. Set up default transformation settings
3. Start using HATS LE





Select A Template



- **Templates included in HATS LE**
 - Templates have different characteristics
 - Can add own templates to list
- **Set if you want to show keypads and allow use of keyboards**

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Customize your template



- **Set up your:**
 - Windows title
 - Banner text
 - Banner background
 - .GIF
 - .JPG
 - Style sheet
- **Preview it**

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Options vary on Template selected

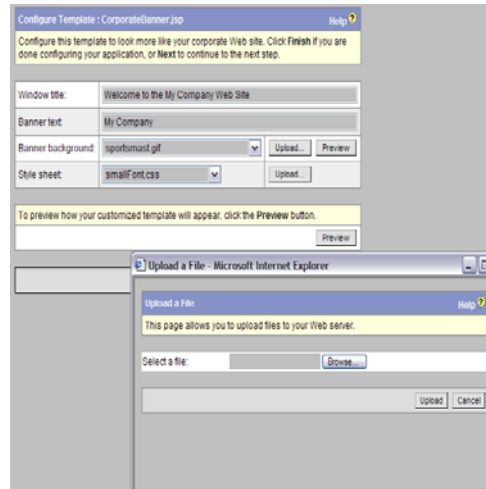


Depending on which template you select, you may have more selection options.

- Here you can upload your own banner background

- .GIF
- .JPG

- Select a Style sheet
- Or upload your own



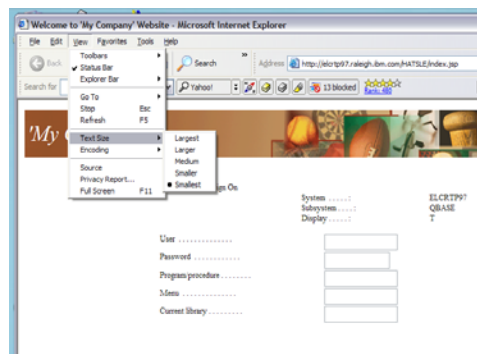
Preview



Preview your template



If screen characters are too big / too small, end user can change them by using the 'View' (on browser toolbar) to change font size





Steps that need to be done...



1. Install HATS LE on iSeries
2. Configure HATS LE
 - a. Set up connection settings
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Transformation Settings



Define 'look and feel' of host screens for end users

- Detect Function (PF) keys
- Detect Selection lists
- Detect Tables
- Detect Subfiles
- Detect Fields

This panel has been reorganized from HATS LE V4 to V5

Transformation Settings		Help ?
Select how to render your transformed host screens. Click Finish if you are done configuring your application, or Next to continue to the next step.		
<input checked="" type="checkbox"/> Detect function keys	Render as: <input type="radio"/> Button <input checked="" type="radio"/> Link	Settings...
<input checked="" type="checkbox"/> Detect selection lists	Render as: <input type="radio"/> Button <input type="radio"/> Button table <input checked="" type="radio"/> Link <input type="radio"/> Dropdown list <input type="radio"/> Option list	Settings...
<input type="checkbox"/> Detect tables		Settings...
<input checked="" type="checkbox"/> Detect subfiles		Settings...
<input checked="" type="checkbox"/> Detect fields	Fields are always detected.	Settings...
		Back Next Finish Cancel

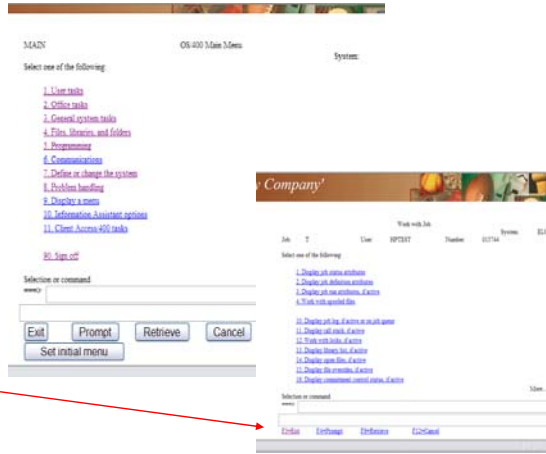
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Example of how you might set up function keys

1. Buttons

2. Links

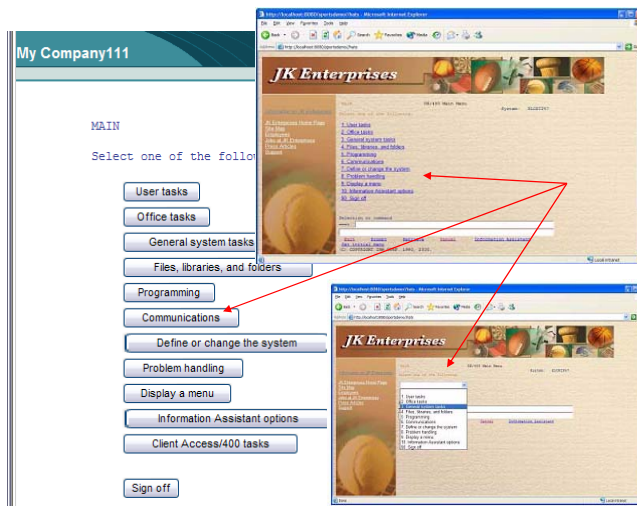


Example of how you might set up your selection lists

- Buttons

- Links

- Dropdown lists





Subfile Rendering



Subfile rendering is a key differentiator of HATS LE from other browser-based 5250 emulators

Subfile Settings	
Select how to recognize and render subfiles on the host screens.	
<input checked="" type="checkbox"/> Recognize using default algorithm	
Action Recognition	
The subfile actions are recognized based on a text pattern. Configure the text pattern and specify if other attributes should be used to recognize the actions.	
String before leading token:	<input type="text"/>
Leading token type:	Digit <input type="button" value="v"/>
Delimiter:	= <input type="text"/>
<input type="checkbox"/> Must be specified color	
Color:	BLUE <input type="text"/>
<input type="checkbox"/> Must check for high intensity	
<input checked="" type="checkbox"/> Must be high intensity	



More Settings for Subfile Rendering...



- Header recognition
- Table recognition
- Marker recognition

Header Recognition	
Specify the attributes to be used to recognize subfile headers. A header will be recognized if any of the checked attributes is true.	
<input checked="" type="checkbox"/> Recognize by text	
Begins with:	Opt <input type="text"/>
<input type="checkbox"/> Must be specified color	
Color:	BLUE <input type="text"/>
<input type="checkbox"/> High intensity	
<input type="checkbox"/> Specified color	
Color:	BLUE <input type="text"/>
Table Recognition	
Column delimiter:	<input type="text"/>
Marker Recognition	
Specify the attributes to be used to recognize subfile and marker. The end marker will be recognized if any of the checked attributes is true.	
<input checked="" type="checkbox"/> Done	

Marker Recognition	
Specify the attributes to be used to recognize subfile and marker. The end marker will be recognized if any of the checked attributes is true.	
<input checked="" type="checkbox"/> Recognize by text	
Text:	More...Bottom <input type="text"/>
Start row:	1 <input type="text"/>
Start column:	1 <input type="text"/>
End row:	24 <input type="text"/>
End column:	80 <input type="text"/>
<input type="checkbox"/> High intensity	
Start row:	1 <input type="text"/>
End row:	24 <input type="text"/>
Start column:	1 <input type="text"/>
End column:	80 <input type="text"/>
<input type="checkbox"/> Empty row	
Start row:	1 <input type="text"/>
End row:	24 <input type="text"/>
<input checked="" type="checkbox"/> Done	



More Settings for Subfile Rendering...



- Caption Type
- Autosubmit on Select
- Dropdown style class
- List option style class
- ...

Caption type:	Show both
<input checked="" type="checkbox"/> Auto submit on select	
<input type="checkbox"/> Show submit button	
Submit button caption:	Submit
Button style class:	HATSBUTTON
Button row style class:	HATSTABLEHEADER
Dropdown style class:	HATSCROFDOWN
List option style class:	HATSOPTION
Table style class:	HATSTABLE
Table cell style class:	HATSTABLECELL
Header row style class:	HATSTABLEHEADER
Odd row style class:	HATSTABLEODDROW
Even row style class:	HATSTABLEEVENROW
Style:	

Done

- Render subfile end marker More...

Dropdown style class:	HATSCROFDOWN
List option style class:	HATSOPTION
Table style class:	HATSTABLE
Table cell style class:	HATSTABLECELL
Header row style class:	HATSTABLEHEADER
Odd row style class:	HATSTABLEODDROW
Even row style class:	HATSTABLEEVENROW
Style:	

Render subfile end marker More...

Display as a button

Display as a link

Display as text

Done

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Try Different Settings



Different default settings

- Templates
- Links, Pull-downs, Buttons, Option lists...
- Different Keypads



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Configuration Summary



Review the configuration settings you have selected and try it out...

- The 'Activate Application' box defaults to on. If you leave it checked, then as soon as you press the 'Finish' button users will be able to start accessing your iSeries through HATS LE
- You can now click on the link of the iSeries you just configured and sign on



ΠΡΕΣΒΗΤΗΡΙΟ ΠΡΟΣΒΑΣΗΣ ΣΥΣΤΗΜΑΤΟΣ

Configuration Complete!

You have successfully configured this application. It is active and can be accessed by navigating to the following URL:

<http://myIsSeries.abc.ibm.com:2044/HATSLE>

Note: This application can be reconfigured by accessing the [Configuration Wizard](#). It can be administered by accessing the [Administrative Console](#).

Log Out

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Steps that need to be done...



1. Install HATS LE on iSeries
2. Configure HATS LE
 - a. Set up connection settings
 - b. Define default template to be used
 - c. Set up default transformation settings
3. Start using HATS LE



You're done!

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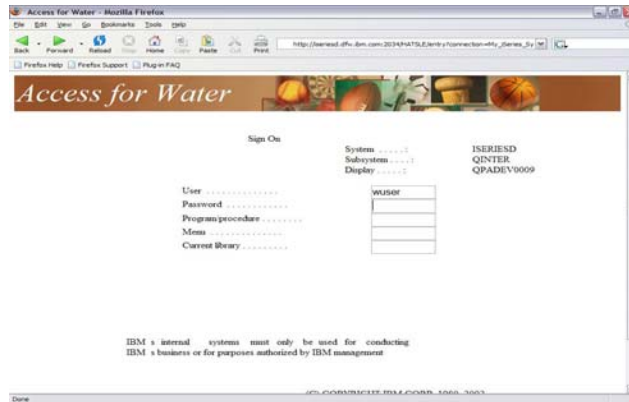
iSeries. mySeries.



Connect to iSeries via HATS LE



Users start their browsers and enter url of HATS LE
`http://serverName/HATSLE`

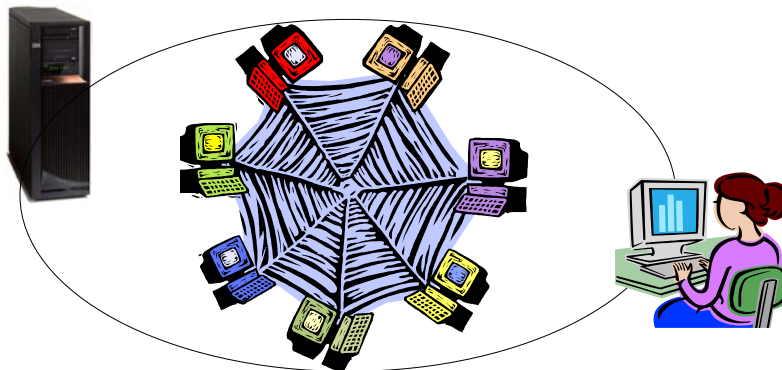


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Other Administrative Functions



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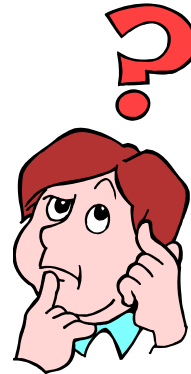


Connect to multiple systems



Can I configure HATS LE to enable users to connect to multiple iSeries servers?

- Yes, HATS LE V5 configuration wizard was enhanced to allow the administrator to configure multiple system connections



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Multiple Connection Settings



To add more connections

- Go back into the Configuration wizard
- Press **Add** button to add more connections
 - Set up Connection Page

Connection Settings Help ?

Configure your host connection settings. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step. For more information, click the Help icon above.

Add
Edit
Delete
Move Up
Move Down
Default

Select Connection	Active	Connection Name	Description	Host Name
<input type="radio"/> (default)	<input checked="" type="checkbox"/>	ip118ab	My Inventory System	localhost

Enable user connection list
When the above option is disabled, the default connection in the list will be used to connect to the host, regardless of activation status.

Allow workstation ID parameter override in URL

Back **Next** **Finish** **Cancel**

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Now you have multiple connections



- **Now check box to Enable User Connection List**
- **You can click on Finish**
 - **If you want to use settings previously selected for Templates and Default Transformation Settings**
- **Or do to Next to change some settings**

Connection Settings

Configure your host connection settings. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step. For more information, click the Help icon above.

Select Connection	Active	Connection Name	Description	Host Name
<input checked="" type="radio"/> (default)	<input checked="" type="checkbox"/>	tp116ab	My Inventory System	localhost
<input type="radio"/>	<input checked="" type="checkbox"/>	iseriescd	Order Boat	localhost

Enable user connection list
When the above option is disabled, the default connection in the list will be used to connect to the host, regardless of activation status.

Allow workstation ID parameter override in URL

Back Next Finish Cancel

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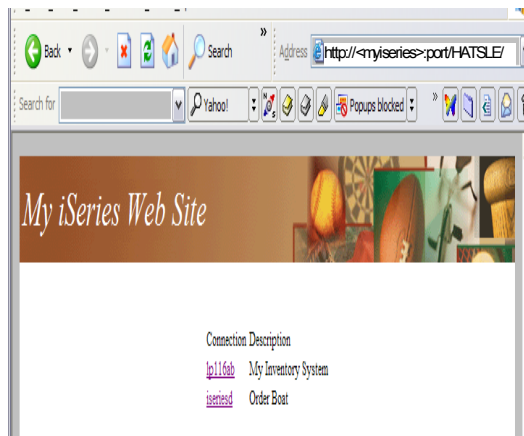
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User selects system connection



- **User has single url address**
 - **<http://<myiseries>:<port>/hatsle>**
- **User then selects which system to connect to**
- **User will then be required to provide a valid user-id and password to the connecting system**



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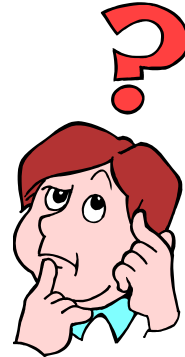


Specialized Customization



How do I customize one set of users one way and another set of users another way?

- The HATS LE Configuration Wizard has no options to assign different configuration settings for some users versus other users.
- The only way to accomplish this would be to provide url's with different port numbers to each set of users.



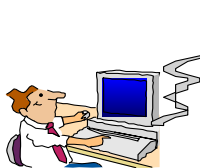
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Set up differently for different user groups...

1



This iSeries has:

- WAS
- HATS LE

System A

System B

TELNET

System C

Different Port numbers

- Administrator could set up different instances of HATS LE with different port numbers
- Go through HATS LE Configuration Wizard for each user group you want to set up

`http://<system_A>:<portX>/HATSLE`

`http://<system_A>:<portY>/HATSLE`

- Each user group is now given a different url address



2



2

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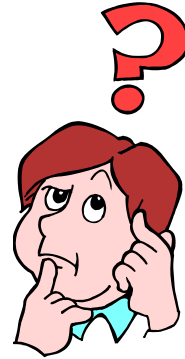


Workstation ID



I want all my users to run under the same workstation ID. How do I guarantee that each user has a unique workstation ID?

- You can have HATS LE assign workstation ID values based on a string you supply.
 - Be sure to include an equal sign (=) before the wild-card character.
 - For example, if you specify ABC* (without an equal sign) as the string from which workstation IDs will be created, HATS LE cannot always assign unique workstation IDs. If you specify ABC=*, HATS LE will assign unique workstation IDs.



Example: Unique Workstation IDs



Connection Settings Help

Configure your host connection settings. Click **Finish** if you are done configuring your application, or **Next** to continue to the next step. For more information, click the Help icon above.

Host name: localhost

Port: 23

Code page: 037 United States

Enable screen reverse (if applicable)

Workstation ID:

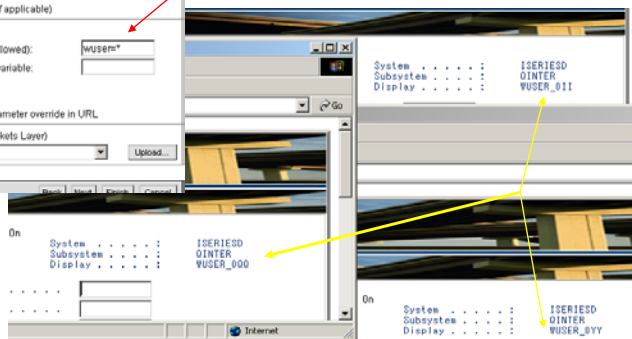
- Server assigned
- Set to value (wildcards allowed): wuser*
- Set from HTTP session variable:
- Prompt user

Allow workstation ID parameter override in URL

Security

Enable SSL (Secure Sockets Layer)

Certificate file: Upload





Manage Connections



<http://serverName/HATSLE/admin>

- This page lists the sessions connected via HATS LE

<input type="checkbox"/>	Session ID	Connection Name	IP Address	Status	Start Time
<input type="checkbox"/>	WzAksTocxJoffCvd9G5Fs	iseriesd	9.10.110.192	Ready	5/18/04 4:11 PM
<input type="checkbox"/>	9prSaiKdSJndqTrvN2rbip	lp116ab	9.10.110.192	Ready	5/18/04 4:18 PM
<input type="checkbox"/>	3kmXHFv93tp7IQ7nf-morJA	lp116ab	9.10.110.192	Ready	5/18/04 2:42 PM

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Manage Connections



From the **Manage Connections** page you can:

- Review the list of sessions connected to your application
 - Click the refresh icon to refresh the list.
- Sort the list by any column by clicking the column heading
 - Click the same heading again to sort in the opposite direction. The arrow icon identifies the column and direction used for sorting.
- Click a session ID to view detailed information about the session.
- Disconnect a session
 - Check the box on the line representing that session and click Disconnect
 - You can select all the sessions by checking the box in the title bar

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Additional administration capabilities

- Application settings
- Connection list
- Template options
- Packaging for migration
- Import for migration
- Communication parameters



Application Settings Editor

- To modify HATS LE application.hap XML file



Communications Parameters Editor

- To modify HATS LE main.hco XML file





HATS LE – XML Files



Enables you to do further customization of HATS LE

Home | Logout | Language | Help |

Configure
Manage
Connections
Advanced

Application Settings Editor
Modify the XML source of your application file.

```
<?xml version="1.0" encoding="UTF-8"?>
<application active="true" configured="true" description=""
template="ClassicTerminal.jsp"
<connections default="main">
  <connection name="main">
</connection>
</connections>
<eventPriority/>
<classSettings>
  <class name="com.ibm.hats.common.Enterprise">
    <setting name="..."/>
  </class>
  <class name="com.ibm.hats.common.HostKeypadTag">
    <setting name="showFXX" value="false"/>
  </class>
</classSettings>
</application>
```

Communications Settings Editor
Modify the XML source of your connection parameters file. These changes will not be used until the Enterprise has been restarted.

```
<?xml version="1.0" encoding="UTF-8"?>
<hostconnection SSL="false" TWSEnhanced="true" certificateFile=""
codePage="037" codePageKey="KEY_US" connecttimeout="120"
description="" disableFidDpa="" disconnecttimeout="120"
enableScreen="" host="localhost" port="23"
screenName="" sessionType="3" singlelogon="false" workstationID=""
workstationIDSource=""
<otherParameters/>
<classSettings>
  <class name="com.ibm.hats.common.HostScreenSettings">
    <setting name="default.appletDelayInterval" value="400"/>
    <setting name="default.delayInterval" value="1200"/>
    <setting name="default.delayStart" value="2000"/>
  </class>
</classSettings>
<webexpresslogon enabled="false"/>
<poolsettings enabled="false" maxbusytime="1" maxconnections="1"
maxlifetime="1" minconnections="0" overflowallowed="false"
waittimeout="120"/>
<hostlogospec/>
```

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Modify Appearance of Host Keypads



I want to modify the appearance of the host keypads... For example, I want to display the host keypads, but I do not want all the function keys (F1-F24) displayed. Can I do that?



Application settings: Choose the Edit button to modify the application.hap XML file



- Click the 'Edit' button under **Application Settings**
 - Find the <classSettings> section, and <class name="com.ibm.hats.common.HostKeypadTag">
 - Make the following change: "showFXX=false" where XX is a number form 1-24.
- This will hide that particular button (and disable keyboard support) for each particular function key.





Use Access for Web 'Printer Output' function



I want to use HATS LE for my 5250, and I would like them to click on a link and be able to use the iSeries Access for Web printer output function to work with their spool file output (ie, PDF conversion)



Add a link to iSeries Access for Web 'Printer Output'



Add Access for Web PDF link to HATS LE



Edit your template to include linking to iSeries Access for Web Printer Output so users can see/print their jobs.. The easiest way to modify your template is to open the HATS LE Admin Console, click "Advanced", select your template and click "Edit".

Note the circled additions put in the template...

```

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<HTML>
<% @page import="java.util.*, com.ibm.hats.common.*" %>
<% @page language="java" contentType="text/html; charset=UTF-8" %>
<% @taglib uri="/WEB-INF/classes/tld/hats.tld" prefix="HATS" %>
<HEAD>
<title><HATS:TemplateSetting name="PAGE_TITLE" caption="PAGE_TITLE_FIELD" defaultvalue="WELCOME TO MY SITE_MSG" type="string" helpID="" configurable="true" priority="1" percentFill="100" />
<HATS:Util type="baseHref" />
<script type="text/javascript" language="javascript">
function goToURL(url) {
    document.location.href = url;
}
</script>
<META name="GENERATOR" content="IBM WebSphere Studio">Add
the following lines:
Further down in the template note the circled additions added:
<CENTER>
<TABLE height="100%" cellpadding="3" cellspacing="3" border="0" width="100%">
<TR>
<TD nowrap width="145">
<HATS:ApplicationKeypad/>
<input type="button" class="ApplicationButton" value="Manage Spool Files" onClick="goToURL('http://myseries/webaccess/WASpool')"/>
</TD>
</TR>
</TABLE>
</CENTER>

```



Access for Web – Printer Output Screen



CMINER user profile customized in Access for Web

- To not show 'Navigation Bar' (ie, no access to other functions)
- Different logo

Once user is finished here, they press browser back button to return to HATS LE screen

User must sign on again to use iSeries Access for Web

File Name	User Data	Creation Date/Time	Pages Per Copy	Copies	Status	Action	Preview	User	Job Name	Job Number	File	Output Queue
QP1A0Q	WRKSPFLFRM	12/19/02 5:36 PM	1	1	Ready	Print Next Delete PDF GIF		CMINER	QOFTJOB	667121	1	QUSRSYSPRT11
QP1A0Q	WRKSPFLFRM	12/19/02 5:37 PM	1	1	Ready	Print Next Delete PDF GIF		CMINER	QPRTJOB	667120	2	QUSRSYSPRT11
QP1A0Q	WRKSPFLFRM	12/19/02 5:35 PM	1	1	Ready	Print Next Delete PDF GIF		CMINER	QPRTJOB	667120	1	QUSRSYSPRT11



Modify Connection Settings



Connection list: Choose the Edit button to modify the connection list settings.

You can use the **Connection List Display Editor** to modify your connection parameters

- You could also go into 'Configuration' and then 'Connection Parameters' and do this

Connection List Display Editor

Identify the user-displayed connection list

Design the displaying area

Choose the orientation for the displayed connection list

Vertically, with the headers across the top

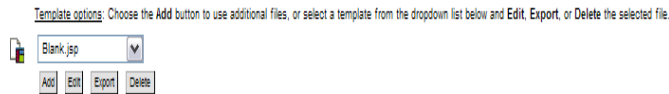
Horizontally, with the headers across the left side

Number of headers to display: 1 2 3 4 5 6 7

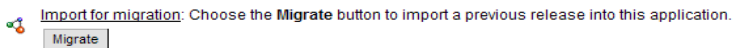
Header item	Header item
Connection	Description
<input type="radio"/> Display as a button	<input type="radio"/> Display as a button
<input checked="" type="radio"/> Display as a link	<input type="radio"/> Display as a link
<input type="radio"/> Display as text	<input checked="" type="radio"/> Display as text
<input checked="" type="checkbox"/> Use translated header	<input checked="" type="checkbox"/> Use translated header
Text: Connection	Text: Description

Add any additional text that should be displayed on the index page

I would like to create a template for my screens that has our own company logo, etc. How do I do that?



- Pick a template from the list of HATS LE templates, and use 'Export' button to store on your PC
- Modify the template using your favorite HTML/JSP editor, and save the template with a different name
- Then use the 'Add' button under the Template Options to include it with the other HATS LE templates.
- Then go into the Configuration Wizard. You will see the template in the list with the shipped templates.
- Later if you want to modify your template, you could use the 'Edit' function under Template Options to do this.



If you are currently using HATS LE V4 and wish to preserve your configurations, templates, etc, follow these directions:

- Go into HATS LE V4 Advanced Administration, and select the **'Migrate'** option.
 - This will save the HATS LE V4 .zip file in a directory
- Go into WAS Administration Console and remove HATS LE V4 (hats4le.ear -- Enterprise Archive Record)
- Now install HATS LE V5 to WAS
- Go into HATS LE V5 Advanced Administration, and select the **'Import for Migration'** option.
 - When you are prompted to 'Upload a File', enter the path of HATS LE V4 that you saved in step 1
 - Update your templates
 - The HATS LE V4 templates will be re-designated with "_V4LE" appended to the original name. Change the desired V4 templates to use the new stylesheet style references before using in production



Check for a Fix Pack

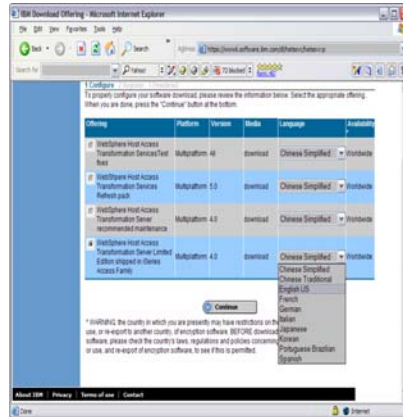


Check Web page to find out if there is a Fix Pack available for HATS LE

- Link is on iSeries Access HATS LE web page at <http://www.ibm.com/eserver/iseries/access/hatsle>
- Click on link to HATS LE fix packs
- Download latest Fix Pack for HATS LE

Get the latest fix pack number as all the fixes are in the latest one

- HATS LE fixes not shipped with iSeries CUMTAPES
- Only available via this download method



Go to

www.ibm.com/eserver/iseries/access/hatsle and click on **Fix Packs** link

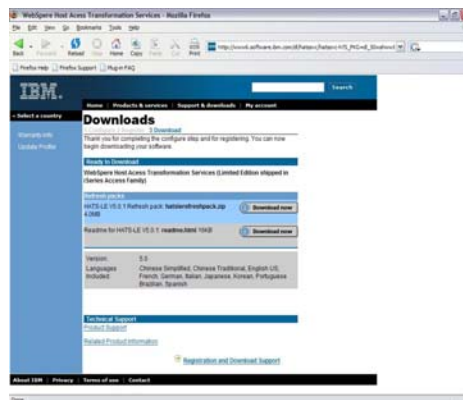


Get Fix Pack from web



New HATS LE Fix Pack 5.0.3 contains:

- A new Dialog added to aid HATS default rendering in recognizing modal frames (pop-ups) on the host screen.
- Option added to keep or remove spaces for SI/SO characters in unprotected fields on DBCS host systems
- You can now specify the location of log, trace, and license tracking output files
- Many Fixes for reported problems





Install HATS LE Fix Pack



Package for migration: Choose the **Package** button to compress your application into a zip file which can then be downloaded and imported into the HATS Studio.

Package

Use **Package for Migration** function in **Advanced Settings**

- Click on 'Package for Migration' to automatically save HATS LE V5 in the QIBM directory
- Now you can install the new Fix Pack, and still have a working backup if you need it



**Other new
functions in
HATS LE V5**





Reverse Image



Enable Screen Reverse

- For example, suppose a host screen has a field with a black background, and red text.
- When the reverse video attribute is turned on for this field, the host terminal displays black text with a red background.
 - Be sure to review the README document if you plan to use this
 - Get Fix Pack 5.0.3 for fixes to this

The screenshot shows the 'Connection Settings' dialog box. The 'Code page' is set to '424 Hebrew (New Code)'. The 'Enable screen reverse (if applicable)' checkbox is checked, highlighted with a red arrow. Other options include 'Enable Unicode data streaming (if applicable)', 'Workstation ID' (Set to value: CMINER**), and 'Security' (Enable SSL).

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5250 Unicode datastream support



SBCS-based sessions

- Bidirectional text that appears in Unicode fields will be processed correctly by checking the Enable Unicode Data Streaming checkbox. Instead of using visual input field these fields will have a contextual orientation (according to first strong character).
- This includes Latin 1&2, Cyrillic, Turkish, Greek, and Baltic support

DBCS-based sessions

- Unicode fields support DBCS characters for the base EBCDIC CCSID for all simple script, including left-to-right SBCS character sets

The screenshot shows the 'Connection Settings' dialog box. The 'Code page' is set to '1399 Japanese (Latin Unicode Extended)'. The 'Enable Unicode data streaming (if applicable)' checkbox is checked. Other options include 'Enable screen reverse (if applicable)', 'Workstation ID' (Set to value: CMINER**), and 'Security' (Enable SSL).

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Other Enhancements



- Recognition of 'More...' on the screen
 - Notes: Problems may exist with non-English applications. 'More...' is used to tell the user there is more data and to page down. When 'More...' has been changed to non-English text it may not be properly handled.
- Expanded Emulator Functions
 - Are designated from DDS check keywords and include auto-advance, validity checking, input restriction, and reset ability for locked screens
 - Settings that are universal (such as auto-advance) will be preset to 'on' for the default transformations.
 - The host function keypad presented, and the browser keyboard mappings have additional keys associated with the expanded functionality.
 - These include: the Field Exit, Field +, Field -, and the Reset Keys.

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Differences Access for Web (5722-XH2, V5R3) VS HATS LE



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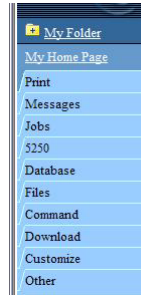
iSeries Access for Web provides many functions in addition to 5250 emulation



- My Personal Folder
- Print
 - Printer output
 - PDF Printer output
 - Printers
 - PDF Printers
 - Internet Printers
 - Internet Printer Shares
 - Printer shares
 - Output Queues
- Database
 - Tables
 - My Requests
 - Run SQL
 - Copy Data to Table
 - Import Request
 - Extract Server Data

- 5250
 - Active Sessions
 - Start 5250 Session
 - Configured Sessions
- Commands
 - Run commands
 - My commands
 - Search
- Files
 - Browse Files
 - File Shares
- Messages
 - Display Messages
 - Send Messages
 - Sametime
 - Operator Messages
 - Message Queue

- Jobs
 - User Jobs
 - Server Jobs
- Customize
 - Preferences
 - Policies
 - Settings
- Download
- Other
 - Bookmarks
 - Change Password
 - Connection Pool
 - Status
 - Trace
 - About



Items marked in red are new in the V5R3 version

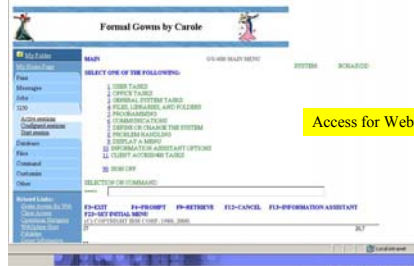


We will look at only the differences between the 5250 interface



The iSeries Access Family now provides two unique ways to start a 5250 session to an iSeries

1. Access for Web
 - Product 5722-XH2 includes an integrated 5250 emulation function
2. HATS LE
 - Offers 5250 emulation that is quick and easy to set up and define





Special Handling for Subfiles



HATS LE has special default code to handle 'subfiles'.

- Ran command 'STRQM'
- Selected 'Work with Query Manager Tables'



Access for Web – Subfile look



Same OS/400 command screen viewed by 5250 emulator in Access for Web





Differences



Capability	Access for Web	HATS LE
5250 display emulation •Can enable 'More...' on a button, cursor positioning help (ie, will perform function that pressing F1, F9, etc would do) •Can specify to have drop down lists •Can detect selection lists and tables and provide an enhanced GUI look •Provides special handling for Subfiles •Can start multiple 5250 sessions to multiple iSeries servers from single browser connection •Macro support to eliminate entering repetitive commands or even bypass the second sign-on screen. •One centrally administrated user interface applies to all 5250 users	Yes No No No Yes Yes Yes	Yes Yes Yes Yes No (1) No Yes
Keyboard support •Internet Explorer/Netscape - can press Function keys, page up/down, etc	Yes	Yes
Web page customization •Templates included for setting up GUI (ie, company logos, etc) •Can build different front pages ('window) for different users	No Yes	Yes No
Web application servers supported: •WAS - all V4 and V5 versions •Runs as a portlet in WebSphere Portal Express •ASF Tomcat	Yes Yes Yes	Yes No No
GUI access to iSeries resources •Database , Printers, Printer Output, IFS, NetServer	Yes	No (2)

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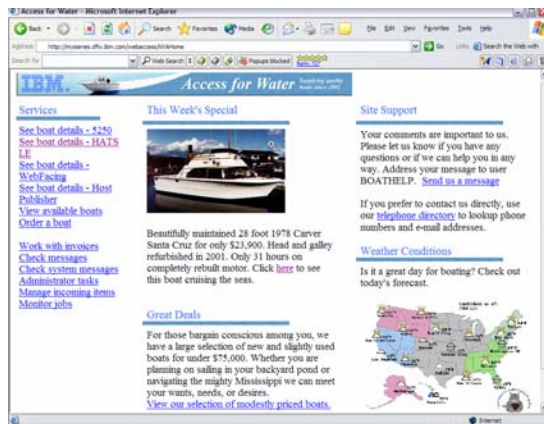


Use Access for Web and HATS LE



From iSeries Access for Web 'customized' front page you could start HATS LE

- Include a link in here that starts HATS LE and a 5250 application (maybe on another system)



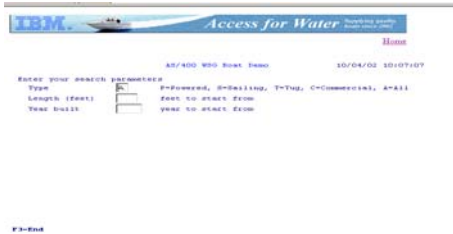
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RPG Application - AS/400 WSG BOAT DEMO

- Using Access for Web 5250 interface
- Using HATS LE 5250 interface



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Try out HATS LE tonight!



HATS LE Demo web site

- <http://iseriesd.dfw.ibm.com:2034/HATSLE/>
- Key in user-id of WUSER or WACUST
- Key in password of DEMO2PWD

Note that Workstation ID also starts with WUSER for each session (used the Workstation ID wildcard support)



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Use HATS LE from Access for Web



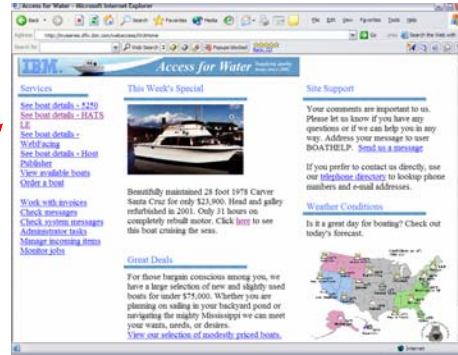
Access for Web Demo web site

<http://iseriesd.dfw.ibm.com/webaccess/iWAHome>

Key in:

- User-id of BOATADMIN
- Password of DEMO2PWD

Select the HATS LE link



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Differences

HATS

VS

HATS LE

Powered by Eclipse™ technology
Windows®



WebSphere Welcome to IBM WebSphere Host Access
Transformation Server (HATS)



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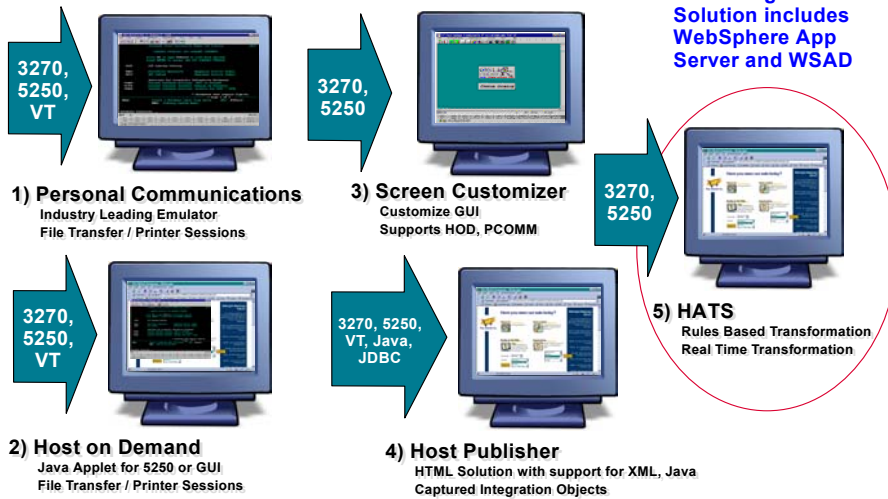


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WebSphere Host Integration Solution



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Web Catalog Options



Part Number	Title
D52WALL	HATS FOR MULTIPLATFORMS, CONCURRENT, LIC+SW MAINT 12 MONTHS
D52WTLL	HATS FOR ISERIES, CONCURRENT, LIC+SW MAINT 12 MONTHS
D53H4LL	HOST ACCESS TRANSFORMATION SVC INTR REG LIC+SW MAINT 12 MO
D53H7LL	HATS FOR ISERIES, REGISTERED, LIC+SW MAINT 12 MONTHS

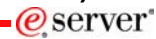
<http://www-306.ibm.com/software/sw-atoz/>

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Host Access Transformation Services (HATS)



- **Converts green screens to GUIs on the fly, in real time**
 - A web-to-host 3270, 5250 HTML emulator...
 - Preserves existing application flow...
 - Translates system screens too...
- **Easy Web-to-host first step**
 - Has a rules-based transformation engine...
 - "Near" load-n-go implementation
 - Low skills requirement
- **Zero footprint on the desktop**
- **Industry-standards**
 - HTML, HTTP, HTTPS



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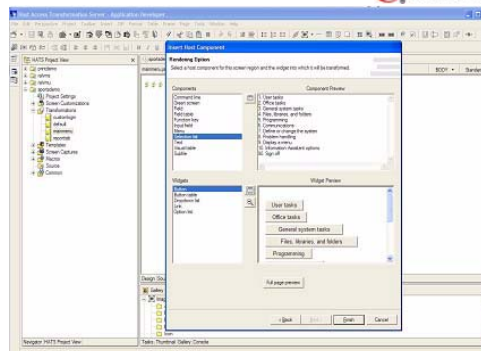
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HATS Capabilities



- **Eliminates need to customize every screen**
 - Rules-based data stream translator
- **Additionally customizable**
 - Customize individual screens
 - Play and record macros
 - Add tabbed folders and graphs
 - Store and retrieve global variables
 - Can integrate with WebSphere Portal
 - Skip and combine screens



HATS Studio is a plug-in to the Eclipse-based WebSphere Studio Development Tools. It provides an easy-to-use wizard-based environment for converting host screens to a web-like appearance and functionality

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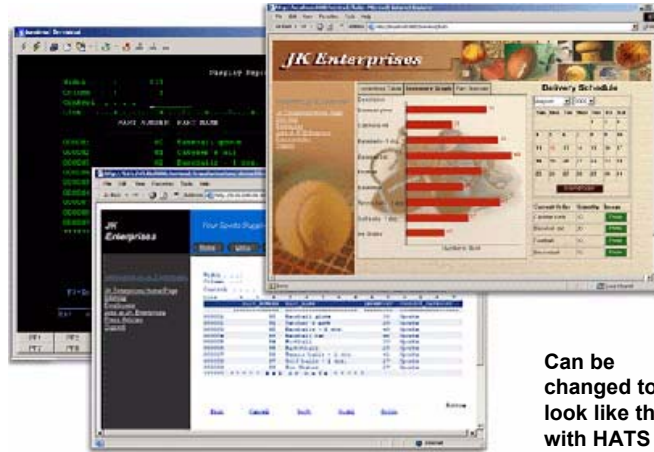
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HATS Example



Traditional
Green Screen



Can be
changed to
look like this
with HATS

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Differences – HATS vs HATS LE



Features in both HATS and HATS LE

- Default host screen transformation
- Configuration of host connection settings
- Ability to chose a standard template
- Ability to turn on/off application and host pads
- Keyboard support

Features in HATS, not in HATS LE

- Customize individual screens
- Play and record macros
- Add tabbed folders and graphs
- Store and retrieve global variables
- Runs on WebSphere Portal
- Skip and combine screens



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Comparison Table



Function	HATS	HATS LE
On-the-fly rules-based conversion of host screens to HTML GUIs	Yes	Yes
No need to access or modify source code	Yes	Yes
Host applications can be deployed to the Web within hours	Yes	Yes
Does not require modification when changes are made to host applications	Yes	Yes
Zero-footprint, zero-download - only code needed on the client is a Web browser	Yes	Yes
Supports iSeries subfiles	Yes	Yes
Provides native keyboard support	Yes	Yes
Secure HTTP (HTTPS) and Secure Socket Layer (SSL) security	Yes	Yes
Runs with WebSphere Application Server V4 & V5, including V5 Express	Yes	Yes
Leverages reliability and scalability of WebSphere Application Server	Yes	Yes
Works with Internet Explorer and Netscape Web browsers	Yes	Yes
Supports 5250 hosts	Yes	Yes
Supports 3270 hosts	Yes	No
Requires a WebSphere Studio installed on PC (either V4 or V5) to customize HTML	Yes	No
Uses Web-based Configurator and Management tool to customize HTML	No	Yes
Runs on iSeries Server Platform	Yes	Yes
Runs on AIX, Windows, Solaris, and zSeries Server Platforms	Yes	No

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Differences (continued)



Function	HATS	HATS LE
Any individual screen can be fully customized	Yes	No
Generate and run macros	Yes	No
Skip and combine screens	Yes	No
Store & retrieve data in global variables	Yes	No
Enter data on behalf of end user	Yes	No
Convert text entry fields to valid value lists	Yes	No
Create tabbed folders (with easy to use wizards)	Yes	No
Create bar & line graphs (with easy to use wizards)	Yes	No
Redirect users to other URLs	Yes	No
Globally replace text	Yes	No
Add business logic	Yes	No
Print locally with PDF printing function	Yes	No (1)
Use HATS portlet to integrate with WebSphere Portal	Yes	No

(1) Can combine use of iSeries Access for Web to work with spooled printer output and convert to PDF

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Try it out!



- **Host Access Transformation Services Limited Edition**
 - 5250 emulator that is used through a browser
 - Servlet - entire product runs on web application server, nothing to install or configure at the desktop
- **Available exclusively with iSeries Access Family, 5722-XW1**
 - Automatically ships with 5722-XW1 orders
 - No additional charge for HATS LE (beyond the cost of 5722-XW1)



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