

ITS Administration Guide



HELP.BCFESITSADMIN

Release 4.6C



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ITS Administration Guide

This documentation is a comprehensive guide to administration of the Internet Transaction Server (ITS).

- You perform administration tasks with ITS Administration, which is a comprehensive administration and monitoring tool that covers all aspects of ITS server execution.

For further information, see [ITS Administration \[Page 8\]](#).

- You can perform certain administration tasks related to the R/3 System – for example, managing ITS files and Internet users – in R/3 itself.

For further information, see [ITS Administration in R/3 \[Page 65\]](#).

Other specific aspects essential to ITS administration include:

- ITS file storage

The files that make up the services used by the ITS to run applications are stored in special directory structures.

For further information, see [ITS Directory Structure \[Page 68\]](#).

- ITS service parameters

An ITS service is the set of files required by the ITS to run an Internet application from a Web browser.

The service file contains parameters that define how the service should run. There is also a global service file, which contains parameters that apply to all services.

For further information, see [ITS Service Parameters \[Page 70\]](#).

- ITS system templates

ITS system templates are predefined HTML templates for tasks such as user logon, and sending system messages to clients.

For further information, see [ITS System Templates \[Ext.\]](#).

- ITS Native Language Support (NLS)

NLS defines how the ITS handles multiple languages by supporting different character sets and code pages.

For further information, see [ITS Native Language Support \[Page 126\]](#).

- ITS user management

User management covers the administration of users logging on to the R/3 System from the Internet.

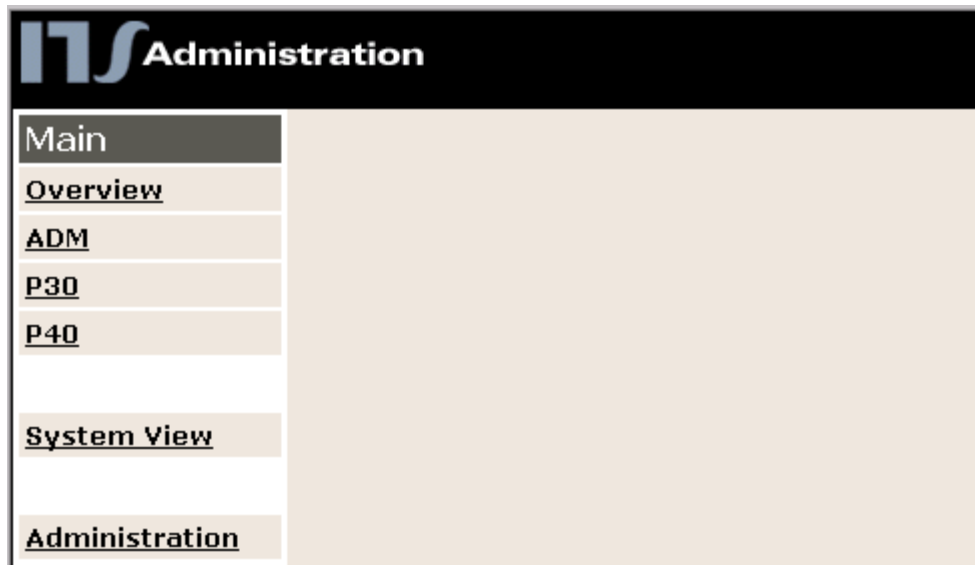
For further information, see [ITS User Management \[Ext.\]](#).

ITS Administration

ITS Administration

ITS Administration is a comprehensive administration and monitoring tool with an HTML-based user interface for managing the ITS.

ITS Administration Main Menu



You can use ITS Administration to:

- Manage users
- Manage ITS instances
- Monitor ITS performance
- Maintain ITS configuration parameters
- Configure file and network security
- View log and trace files
- Manage caching

Installing and Starting ITS Administration

ITS Administration setup is integrated into the standard ITS installation.

When installing the ITS, you can choose one of two options for ITS Administration:

- Install it as an Internet Application Component (IAC)

Installing ITS Administration as an IAC has the disadvantage that it runs under the same ITS that runs all your other IACs. This means that when you run one of the other IACs, you cannot stop the ITS instance running the tool at the same time.
- Install it as a separate virtual ITS

SAP recommends that you install ITS Administration as a separate virtual ITS dedicated specifically for the purpose. This is more secure, and has the advantage that you can stop other ITS instances as and when you need.

It is a good idea to call this instance ADM (not ADMIN), because the ITS installation procedure creates a directory called ADMIN for other purposes.

The standard ITS installation procedure is described in the *SAP@Web Installation Guide*, which is delivered as a printed document together with your ITS installation kit.

Procedure

The basic steps for installing and starting ITS Administration are:

1. Install a separate Web server for the ADM (administration) instance.
 - To install a virtual ITS on your machine, you need to install a Web server for the WGate component.
 - To install a second virtual ITS (the ADM administration instance) to run ITS Administration on the same machine, you need a second Web server.

This Web server can be either Microsoft Internet Information Server (IIS) 4.0x or later, or Netscape Enterprise Server (NES) 3.5x.

If you are using the IIS, please note that only version 4.0 or later supports the virtual Web server instances needed by the ITS installation procedure. If you have an earlier version, SAP recommends that you install the NES, which you can download from Netscape, as well as the IIS. When doing this, specify a port number other than 80 (for example, 81) during the server setup. Otherwise, both Web servers on your machine will attempt to listen to the same port.

2. Add another virtual Web server instance.

Once you have installed the Web server on your machine, it is simple to add another virtual Web server instance. For example, you can use NES Net Server Administration. The new instance should have the same IP address, but listen to a different port.

3. To start ITS Administration, open your Web browser and start the ADM service.

Be careful to use the correct port number. To access the Web server installed for the virtual ITS **ADM**, you need to specify a URL similar to the following:

```
http://<mymachine:myport>/scripts/wgate/admin/!
```

This URL brings up the ITS Administration Tool's logon screen.

Installing and Starting ITS Administration

4. Enter the default administrator account `itsadmin` and the default password `init`.

Result

You get access to the initial screen of ITS Administration.

In the interests of security, you should change the password immediately. You then set up other users.

For further information, see:

[Changing the Password \[Page 13\]](#)

[Managing Users \[Page 12\]](#)

For full details about the ITS installation procedure, see the *SAP@Web Installation Guide*.

User Management

Use

This function allows you to control access to ITS Administration by setting up users and assigning different levels of access to the ITS instances installed.

Prerequisites

To manage users in user management, you must log on with the main administration account `itsadmin`.

Features

In user management, you can:

- Add new users
- Change existing users
- Reset passwords
- Delete users

When adding new users, you specify a user name and an initial password, which can be modified by the user.

You can give users access to any ITS instance with either administrator or view-only authorization.

- Users given administrator access to an ITS instance belong to the administrator group.
These users have full administrator authorizations for the instances specified, but no access to user management. Only the main admin account `itsadmin` can manage other users.
- Users given view-only access to an ITS instance belong to the user group.
These users can display information about the instances specified, but have no administrator authorizations and no access to user management.

Users can have administrator access to some instances, but view-only access to others.

When users log on, they see only those ITS instances to which they have access.

All ITS Administration user information is maintained in the registry, which can also only be viewed by the `itsadmin` account.

Managing Users

Managing Users

Prerequisites

To manage users, you must log on with the main administration account `itsadmin`.

Procedure

To manage user access to ITS Administration:

1. Log on to ITS Administration.
2. In the *Main* frame, choose *Administration*.
3. In the *Administration* frame, choose *User Management*.

You see a list of currently authorized users, unless you are logging on for the first time or you have not added any users yet.

4. Depending on what you want to do, follow the relevant procedure in the table:

Function	Procedure	Result
Add a new user	<ol style="list-style-type: none"> 1. Choose <i>Add</i>. 2. Enter a user name and initial password. 3. Assign an access authorization for each listed ITS instances – administrator, view-only, or none at all. 4. Choose <i>Add</i>. 	ITS Administration adds the new user to the list of authorized users.
Change access or reset password for existing user	<ol style="list-style-type: none"> 1. Double-click on the user name you want to change. 2. Enter changes. 3. Choose <i>Save</i>. 	ITS Administration updates the user.
Delete a user	<ol style="list-style-type: none"> 1. Double-click on the user name you want to delete. 2. Choose <i>Delete</i>. 	ITS Administration deletes the user from the list of authorized users.

Changing the Password

To prevent unauthorized access to ITS Administration, users can change their password at any time.

- If you are logging on for the first time, you use the initial password assigned by the administrator, but you should change this immediately to a password of your choice.
- In the interests of security, it is a good idea to change your password regularly.

Procedure

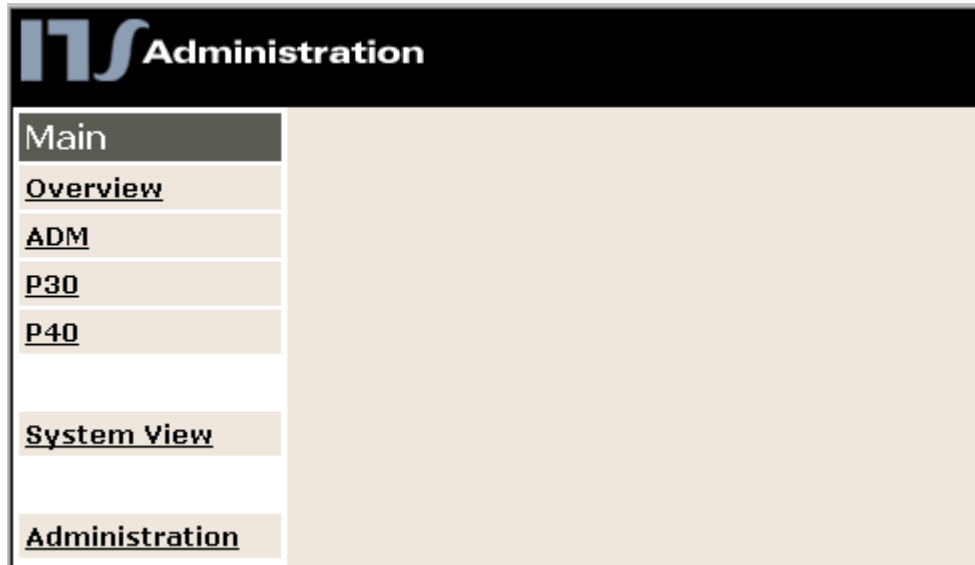
1. In the *Main* frame, choose *Administration*.
2. Choose *Change Password*.
3. In the *Old Password* field, enter the old password.
4. In the *New Password* and *New Password again* fields, enter the new password.
5. Choose *Save*.



If you have logged on with the main administration account `itsadmin`, you can reset the password of other users. See [Managing Users \[Page 12\]](#).

ITS Instance Monitoring

ITS Administration allows you to monitor ITS instances individually or as a group, as shown in the following graphic:



In this case, there are three instances: ADM (Administration), P30, and P40.

- To monitor or perform administration tasks on an individual ITS instance, you choose an instance from the list of defined instances
- To monitor all instances together, you use the *Overview* function

Monitoring ITS Instances as a Group

Use

You use this procedure to get cumulative information about all ITS instances running on the server.

Procedure

1. In the *Main* frame, choose *Overview*.

You see summary information for all ITS instances similar to the following:

Main		Overview Thu Aug 20 15:47:31 1998						
Overview	ITS	Hits	Hits/sec	TATime	Sessions(u/m)	WThreads(u/m)		
ADM	ADM	224	0.000	0.000	1/64		0/4	
P30	P30	1	0.000	0.000	0/64		0/4	
P40	P40	53	0.000	0.011	5/64		0/4	
System View		ITS User CPU %						0
		ITS Kernel CPU %						0
Administration		Memory Load %						0
		Total Physical Memory (kb)						130488
		Avail Physical Memory (kb)						53828
		Total Virtual Memory (kb)						2097024
		Avail Virtual Memory (kb)						2024720

The summary information includes:

- Available resources on the machine
 - Relative resource usage by individual ITS instances
2. To branch directly to performance details for a particular ITS instance, click on an instance in the *ITS* column.

Monitoring ITS Instances Individually

Monitoring ITS Instances Individually

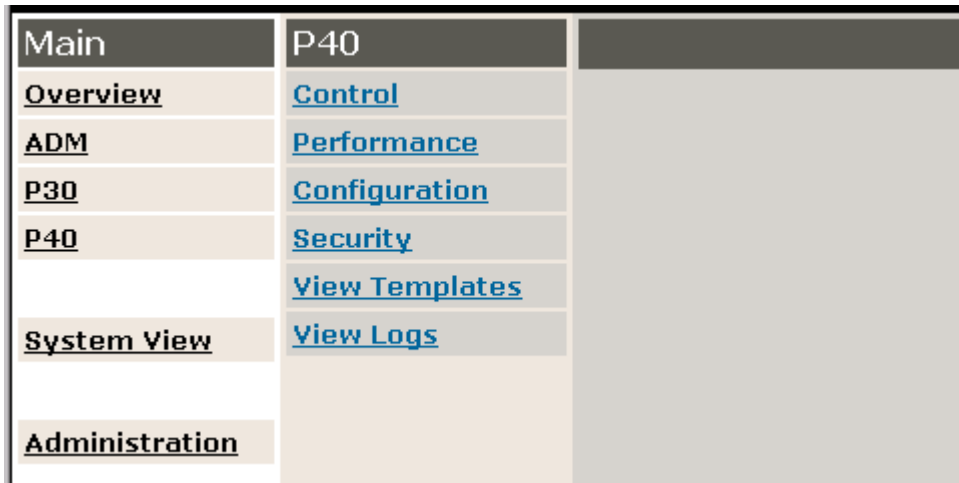
Use

You use this procedure to get information about a single ITS instance running on the server.

Procedure

- In the *Main* frame, choose the ITS instance you want to monitor.

You see a screen similar to the following:



Main	P40	
Overview	Control	
ADM	Performance	
P30	Configuration	
P40	Security	
	View Templates	
System View	View Logs	
Administration		

- Choose the administration function you want.

Starting and Stopping ITS Instances

Use

You use this procedure to start or stop any ITS instance (except the instance running ITS Administration).

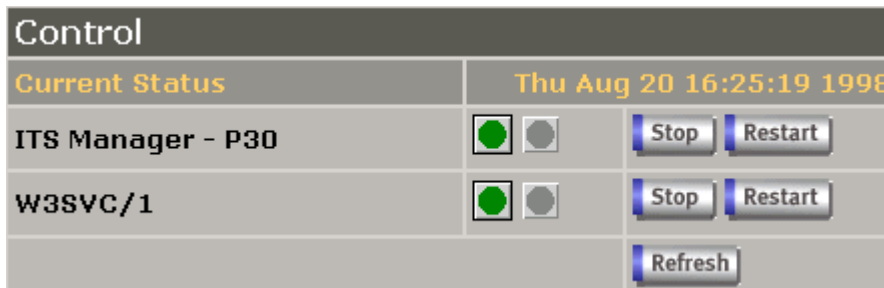
Prerequisites

Before stopping an ITS instance, you need to know whether there are currently sessions running it. To check this, use the *Current Performance* function, described in [Monitoring ITS Performance \[Page 18\]](#).

Procedure

1. In the *Main* frame, choose the name of the ITS instance you want to stop or start.
2. Choose *Control*.

You see the *Control* frame, which displays information on the ITS instance itself and the associated Web server instance. If an instance is currently running, a green light is on. If not, a red light appears.



3. Choose the function you want:

Function	Effect
<i>Start</i>	Starts the ITS instance.
<i>Stop</i>	Stops the ITS instance.
<i>Restart</i>	Stops and restarts the ITS instance.
<i>Refresh</i>	Updates and redisplay the information.



You cannot stop the ITS instance that runs ITS Administration.

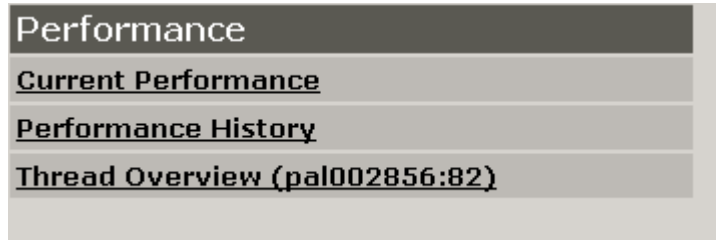
Monitoring ITS Performance

Monitoring ITS Performance

Procedure

1. In the *Main* frame, choose the ITS instance you want to monitor.
2. Choose *Performance*.

This function offers three options:



3. Choose an option
 - If you want to monitor current performance, choose *Current Performance*.

You see details on ITS runtime information.

Performance - P30		
Current Performance	Tue May 26 18:11:58 1998	
Total		
Hits	0	
Hits/Second	0.000	██████████
Turnaround Time	0.000	██████████
Sessions (used/max)	0/64	██████████
WorkThreads (used/max)	0/4	██████████
MaxHitsPerSecond	0.000	
MaxTurnAroundTime	0.080	
Restarts	0	
Up Time	01:25:04	
User CPU %	0	
Kernel CPU %	0	

- If you want to monitor cumulative performance over a length of time, choose *Performance History*.
 - The tool prompts you for the desired time interval.
 - i. Specify the following:

Monitoring ITS Performance

Start Date and Time

End Date and Time

The start and end dates and times are inclusive

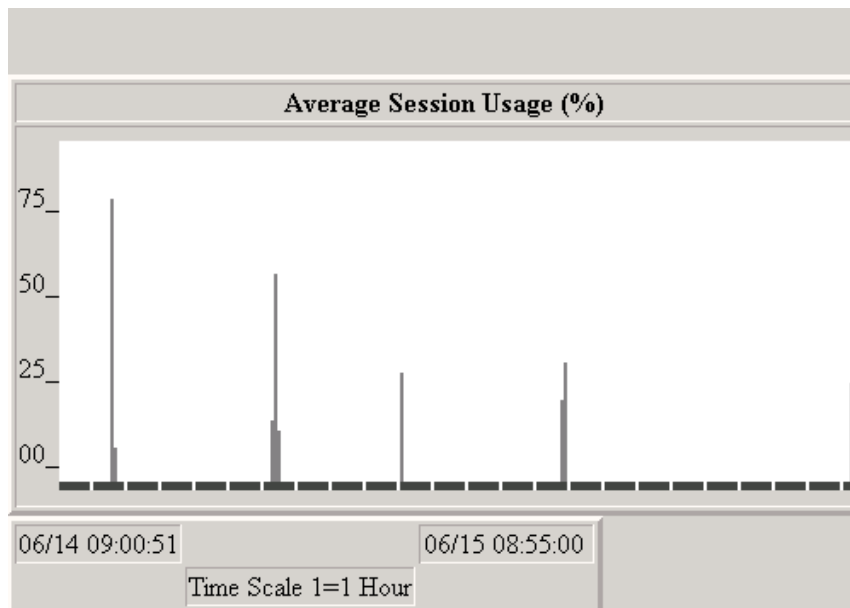
Graph type (if you want a graph display)

You can specify *Averages* (the average value for each time interval displayed) or *Peaks* (the maximum value for each interval).

- ii. Choose *View Performance Log* or *View Performance Graph*.

The *Performance* frame appears.

If you chose *View Performance Graph*, you see averaged or maximum values for session usage, workthread usage, and hits per second.



- If you want the status of existing workthreads, choose *Thread Overview* for the host name and port number you want.

You see a display of all workthreads for this host/port, with their current status.

Main		P30		<p>1 idle 2 idle 3 idle 4 processing no session</p> <p>© 1996-1998, SAP AG</p>
Overview		Control		
ADM		Performance		
P30		Configuration		
P40		Security		
		View Templates		
		View Logs		
System View				

ITS Configuration Parameters

ITS Configuration Parameters

The configuration options offered by ITS Administration allow you to view and modify ITS parameters in the following categories:

- Performance
- Global services
- Services
- National Language Support (NLS)
- Logs
- Traces
- Debug
- Registry

For further information, see:

[Changing Performance Parameters \[Page 21\]](#)

[Changing Global Service File Parameters \[Page 23\]](#)

[Changing Service File Parameters \[Page 24\]](#)

[Changing NLS Parameters \[Page 25\]](#)

[Changing Log Parameters \[Page 27\]](#)

[Changing Trace Parameters \[Page 29\]](#)

[Enabling and Disabling Debugging \[Page 31\]](#)

[Registry Parameters \[Page 32\]](#)

Changing Performance Parameters

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Performance*.
4. Choose the parameter you want and make your changes:

Parameter	Description
<i>MaxSessions</i>	Maximum number of sessions allowed. Recommended values are 100 (for workstations) and 2000 (for server machines).
<i>MaxWorkThreads</i>	Maximum number of workthreads allowed. Recommended values are 4 (for workstations) and 80 (for server machines). The default is 4.
<i>MinWorkThreads</i>	Minimum number of workthreads allowed. (See <i>MaxWorkThreads</i> above.)
<i>TimeoutPercentage</i>	Proportion of timeout granted to high-load sessions. When the maximum number of permitted sessions is reached, the ITS may kill idle sessions in advance of their timeout limits. For example, if a service has a timeout limit of 20 minutes, and <i>TimeoutPercentage</i> is 75%, a session running this service could, in high load situations, be terminated after an idle time of only 15 minutes.
<i>StaticTemplates</i>	Switch to enable or disable HTML template caching. The ITS manages a cache of HTML ^{Business} templates. When a reference is made to one of these templates, the ITS checks whether the template has been modified since it was last written to the cache. If changes have been made, the template is reloaded into the cache. This makes sense in development environments where templates are modified frequently, but it can be expensive in production environments where templates are static (that is, rarely modified). For this reason, you can switch off the caching mechanism by setting this parameter to 1. The default value is 0. If you are obliged to modify templates in a production environment, and this parameter is set to 1, ITS Administration provides a utility that allows you to reload all the cached templates. See Clearing the Template Cache [Page 51] .

Changing Performance Parameters

<i>IncAGates</i>	<p>Number of new ITS instances to be created when all existing instances are heavily loaded and new ones are needed.</p> <p>The default value is 1. Do not modify this value.</p>
<i>MaxAGates</i>	<p>Maximum number of AGate processes possible per ITS instance.</p> <p>Do not modify this value.</p>
<i>MinAGates</i>	<p>Minimum number of AGate processes possible per ITS instance.</p> <p>Do not modify this value.</p>
<i>CacheInvalidateHour</i>	<p>Hour of each day that you want to clear cached module call results.</p> <p>This is a 24-hour clock!</p> <p>Use in conjunction with <i>CacheInvalidateMinute</i>.</p>
<i>CacheInvalidateMinute</i>	<p>Number of minutes past the hour specified in <i>CacheInvalidateHour</i> that you want to clear cached module call results.</p> <p>Use in conjunction with <i>CacheInvalidateHour</i>.</p>
<i>StaticFlows</i>	<p>Switch to enable or disable flow file caching.</p> <p>During development, several changes may be made to the BAPIs or remote-enabled function modules called from flow files, so you should set this parameter to 0 (default). In this case, the ITS retrieves the metadata for each new session.</p> <p>This makes sense in development environments, where flow files are modified frequently, but it can be expensive in production environments where flow files are static (that is, rarely modified). Therefore, you should set this parameter to 1 in production environments. In this case, the ITS gets the metadata only once and uses it for all sessions.</p>
<i>CacheSize</i>	<p>Size of cache used to store data retrieved by module calls to the R/3 System.</p> <p>The cache size is defined during ITS setup, but you can use this parameter to change the value.</p>

Result

ITS Administration changes these values in the Windows NT registry for the specified ITS instance. If you modify ITS performance parameters, you must restart the virtual ITS to activate the changes.

Changing Global Service File Parameters

When you set parameters in the global service file, they become the default values for the entire virtual ITS.

- If an individual service specifies its own value for a particular service parameter, this overrides the global value.
- If an individual service specifies no value for a particular service parameter, the value in the global service file applies.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Global Services*.
4. Choose the parameter you want and make your changes:

Parameter	Description
<i>Default R/3 System</i>	Specifies R/3 System used when you start a service. You can specify either <i>Load Balancing</i> or a <i>Single Application Server</i> .
<i>Default R/3 User</i>	Specifies default user when an ITS service logs on to the R/3 System. You can define <i>Client</i> , <i>User</i> , and <i>Password</i> .
<i>All settings</i>	Lists all global service parameters.

Result

ITS Administration automatically updates values in the global service file (`global.srvc`). You do not have to restart the virtual ITS to activate your changes.

Changing Service File Parameters

Changing Service File Parameters

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Services*, and then the name of the service you want.

You see a frame listing all the parameters specified for that service. You can modify add, or delete parameters.

Parameter	Value	Delete
~transaction	CNW1	<input type="checkbox"/>
~synchbehaviour	NoResync	<input type="checkbox"/>

Save Back

4. Enter your changes:
 - To change a parameter value, enter the new value in the *Value* column.
 - To add a new parameter, use the empty line at the bottom. Enter the parameter name in the *Parameter* column, and the value in the *Value* column.
 - To delete a value, check the corresponding checkbox in the *Delete* column.

Result

ITS Administration automatically updates values in the service file. You do not have restart the ITS to activate your changes.

Changing NLS Parameters

Native Language Support (NLS) parameters provide a mapping between different languages and the corresponding code pages.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *NLS*.

You see a list of possible languages:



4. Choose the language you want to change.

You can set the following variables.

The screenshot shows a dialog box titled "P30\NLS\en settings". It contains several fields for configuring the English language settings:

Variable	Value
Language Id	en
1 Char Lang Id	e
ISO Character Set	us-ascii
Name	English
SAP Code Page	1100
Win32 Code Page	1252

At the bottom of the dialog, there are two buttons: "Save" and "Back".

- *1 Char Lang ID*

Enter the single-character code for the language.

Changing NLS Parameters

- *ISO Character Set*
Enter the character set needed for the code page you want.
- *Name*
Enter the language name.
- *SAP Code Page*
Enter the number of the SAP Code Page for the specified language.
- *Win32 Code Page*
Enter the number of the Windows code page for the specified language.

Result

ITS Administration changes these values in the Windows NT registry for the specified ITS.

Changing Log Parameters

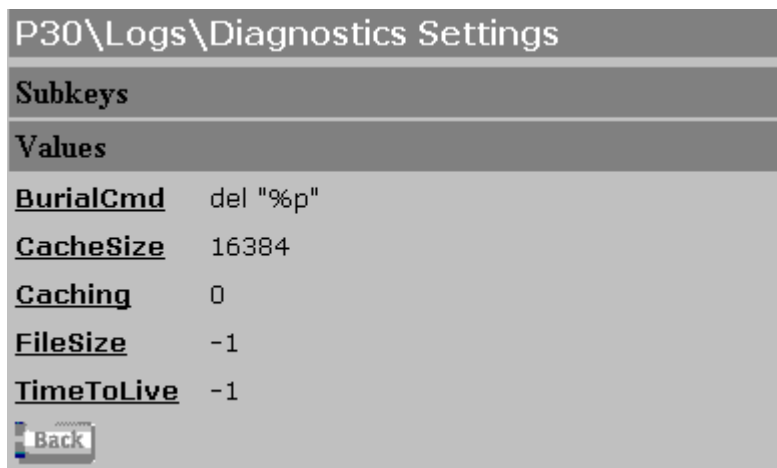
Use

You use this procedure to change log file parameters.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Logs*, and then the name of the log file.

You see a frame similar to the following (which concerns diagnostics):



4. Choose the parameter you want and make your changes:

Parameter	Description
<i>BurialCmd</i>	Specifies how archived log files should be handled after their time-to-live has expired. If you do not enter a value, the expired file is deleted from the file system. To specify some other handling, enter a burial command, as specified in Specifying Burial Commands [Page 62] .
<i>CacheSize</i>	Specifies the size (in bytes) of the internal buffer used for cached and uncached writes to the log. If <i>Caching</i> is enabled, <i>CacheSize</i> controls the block size with which information is flushed to the file system.
<i>Caching</i>	Enables or disables the caching of log data. To switch caching off, set value to 0. To switch caching on; set value to 1. For the administration ITS instance, <i>Caching</i> must be set to 0.

Changing Log Parameters

<i>FileSize</i>	Specifies maximum size (in bytes) that a single log file may reach before being archived. This parameter controls the transition from the status "current log" to the status "archived log".
<i>TimeToLive</i>	Specifies the time-to-live (in days) for archived logs. If an archived log file is older than the specified period, the ITS deletes it according to the value specified in <i>BurialCmd</i> .

For further information about log files, see [Log Files \[Page 54\]](#).

Changing Trace Parameters

Procedure

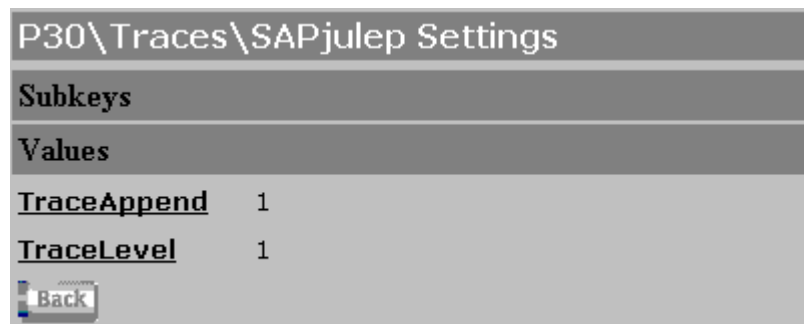
1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*
3. Choose *Traces*.

You can set trace parameters for the following components:

Parameter	Description
<i>AGate</i>	Application gateway. This is the ITS server process.
<i>MManager</i>	Mapping Manager This component manages <i>AGate</i> processes.
<i>SAPirf</i>	Interface Repository File. This component forms an abstraction layer between the ITS and the native file system.
<i>SAPjulep</i>	HTML ^{Business} interpreter. Interprets and executes HTML ^{Business} code at runtime.
<i>SAPxgdk</i>	External Gateway Development Kit This is a library of functions used to implement an XGateway.
<i>WGate</i>	Web Gateway. Accepts requests from the Web and passes them to <i>AGate</i> .

4. Choose the code component you want to trace.

You see a frame similar to the following:



5. Choose the parameter you want to change:
 - *TraceAppend*

Changing Trace Parameters

This parameter specifies whether the ITS should use the existing trace file, or open a new one, when a new ITS instance is started.

- If *TraceAppend* is 1, trace messages are appended to the existing file.
- If *TraceAppend* is 0, a new trace file is opened.
- *TraceLevel*

This parameter specifies how much information should be logged in the trace file. Possible values are:

- 0: Do not log any trace messages.
- 1: Log errors only.
- 2: Log errors and warnings.
- 3: Log errors, warnings, and information messages.

6. If you want to change the location of the trace files, return to the previous frame.
7. Click *TracePath*, and enter the new path for the trace location.

Result

If you enable or disable tracing for the WGate component, you must restart the WGate to activate your changes. For all other components, your changes take effect immediately (without restart).

Enabling and Disabling Debugging

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Debug*.

You can set parameters for *Debug* and *SapguiDebuggerPort*:

Parameter	Description
<i>Debug</i>	To enable debugging, select <i>ON</i> . To enable debugging, select <i>OFF</i> .
<i>SapguiDebuggerPort</i>	System number of ITS debugger port. Each virtual ITS needs a unique debugger port. Possible values are usually from <i>sapdp00</i> to <i>sapdp99</i> . See the file <code>\winnt\system32\drivers\etc\services</code> for the names defined. This feature is not supported for multiple AGate processes.

Registry Parameters

Registry Parameters

Many Internet Transaction Server (ITS) parameters are stored in the Windows NT registry.

If you are logged on with the main administration account `itsadmin`, it is possible to change registry settings in ITS Administration.



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

The *Registry* function allows you to maintain ITS parameters in the following categories:

- Administration
- Connections
- Controls
- Diagnostics
- Instances
- Log files
- National Language Support
- Programs
- Traces

For further information, see:

[Maintaining Administration Parameters \[Page 33\]](#)

[Maintaining Connection Parameters \[Page 36\]](#)

[Maintaining Diagnostics Parameters \[Page 38\]](#)

[Maintaining Instance Parameters \[Page 40\]](#)

[Maintaining NLS Parameters \[Page 41\]](#)

[Maintaining Program Parameters \[Page 42\]](#)

Maintaining Administration Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Registry*.
4. Choose *Admin*.
5. You can specify values for the parameters listed in the following table:

Parameter	Description
<i>Security Level</i>	Level of file security. Possible values are everyone , itsdmin , and itsadmin+itsusers .
<i>Admin Account</i>	ITS administrator account.
<i>User Group</i>	Group that gives users read-access to templates and MIME files.
<i>Web Account</i>	User account for Web server.

Maintaining CCMS Parameters

Maintaining CCMS Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

To get a better overview of all components in your system, you can monitor ITS activity from the Computing Center Management System (CCMS) in the R/3 System. This allows you to check ITS status, error information, and performance data. You can then use ITS Administration to get further details and, if necessary, correct any errors.

The ITS can send this information to the CCMS at regular intervals, but you have to enable CCMS monitoring explicitly before you can receive it.

Procedure

To activate CCMS monitoring of the ITS:

1. Create a special service file called `ccmscfg.srvc`.

This file contains information such as the application server, logon information for the R/3 host where the CCMS is running, the URL for accessing ITS Administration, as well as ITS server and Web server information.

You must create a separate version of `ccmscfg.srvc` for each virtual ITS instance that you want to monitor.

The parameters you need to specify in a typical version of `ccmscfg.srvc` are listed in the following table:

Parameter	Example Value	Description
<code>~appserver</code>	<code>ds0046.wdf.sap-ag.de</code>	R/3 System where CCMS is running.
<code>~systemnumber</code>	87	R/3 System number
<code>~systemname</code>	BIE	R/3 System name
<code>~client</code>	000	R/3 System client
<code>~login</code>	<user name>	R/3 System user name
<code>~password</code>	des26(8a1766fb98dd2906)	R/3 System password
<code>~language</code>	en	R/3 System language
<code>~itshost</code>	pa1002856	ITS server
<code>~AdminURL</code>	<code>http://<MyMachine:MyPort>/scripts/wgate/admin/!</code>	URL to access ITS Administration
<code>~WebHost</code>	pa1002856	ITS Web server
<code>~WebPort</code>	81	ITS Web server port

Maintaining CCMS Parameters

<code>~R3Host</code>	<code>BCE</code>	ITS R/3 host
<code>~R3Client</code>	<code>002</code>	ITS R/3 client

You can create this file with the grid control editor in the SAP@Web Studio, or in any suitable text editor.

2. In ITS Administration, activate CCMS monitoring and specify the frequency you want the ITS to send monitoring information.

To do this, you set 2 registry parameters:

- a. In the *Main* frame, choose the ITS instance you want to configure.
- b. Choose *Configuration*.
- c. Choose *Registry*.
- d. Choose *CCMS* and set the parameters:

Parameter	Description
<i>CcmsMonitoring</i>	<p>Enables/disables CCMS monitoring of the ITS.</p> <p>To enable CCMS monitoring, set this parameter to 1. The default is 0.</p> <p>Setting this parameter changes the value in the registry at:</p> <pre>\\HKEY_LOCAL_MACHINE\SOFTWARE\SAP\ITS\2.0\<virtual ITS>\CCMS\CcmsMonitoring</pre>
<i>CcmsRepInterval</i>	<p>Reporting interval.</p> <p>This is the frequency for reporting ITS information to the CCMS.</p> <p>To set this frequency, specify a value in minutes. The default is 300 seconds (5 minutes).</p> <p>Setting this parameter changes the value in the registry at:</p> <pre>\\HKEY_LOCAL_MACHINE\SOFTWARE\SAP\ITS\2.0\<virtual ITS>\CCMS\CcmsRepInterval</pre>

Result

When you have created the service file `ccmscfg.srvc`, and enabled CCMS monitoring, the ITS sends the following performance data to the CCMS at the default frequency or the frequency you specified:

- Number of sessions used
- Total number of sessions
- Number of workthreads used
- Total number of workthreads
- Average hits per second
- Maximum hits per second
- Total number of hits

Maintaining Connection Parameters

Maintaining Connection Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Registry*.
4. Choose *Connects*.
5. You can specify values for the parameters listed in the following table:

Parameter	Description
<i>Host</i>	<p>Address of AGate host.</p> <p>This value can be:</p> <ul style="list-style-type: none"> • A DNS name (for example, <code>myhost.pal.sap-ag.de</code>) • An IP address (for example, <code>213.11.22.33</code>) • A router string for the SAProuter. <p>If you specify a router string, omit the last service (that is, the port specification on the target host). For a string with two SAProuters and an R/3 host, you could enter:</p> <pre style="margin-left: 40px;">/H/host1.wdf.sap-ag.de/S/3900/H/host2.wdf.sap-ag.de/S/3800/H/R3host</pre>
<i>PortAGate</i>	<p>Port number of AGate process (usually 3900), or name of a service (for example, <code>sapavw00_P40</code>).</p> <p>To determine this name, open the file <code>C:\winnt\system32\drivers\etc\services</code> on the AGate host and look for the entry <code>sapavw00_<virtualITS></code>.</p>
<i>PortMManager</i>	<p>Port number of the ITS Manager process (usually 3909), or name of a service (for example, <code>sapavmmm_P40</code>).</p> <p>To determine this name, open the file <code>C:\winnt\system32\drivers\etc\services</code> on the AGate host and look for the entry <code>sapavmmm_<virtualITS></code>.</p>

Maintaining Connection Parameters

<i>SncNameAGate</i>	<p>Distinguished SNC name of AGate instance.</p> <p>You must provide a value for this key if the specified communication method for the ITS is NISNC, and you want to use encryption.</p>
<i>SncNameWGate</i>	<p>Distinguished SNC name of WGate instance.</p> <p>You must provide a value for this key if the specified communication method for the ITS is NISNC, and you want to use encryption.</p>
<i>Type</i>	<p>Type of communication method used for communication between AGate and WGate.</p> <p>Possible values are:</p> <ul style="list-style-type: none"> • 0: Sockets • 1: NI • 2: NISNC
<i>Secure</i>	<p>If the value of <i>Type</i> is 0 or 1 (sockets or NI), you can use this parameter to enable or disable transmission encoding.</p> <p>If enabled (value=1), data transmitted between AGate and WGate is encoded to prevent unauthorized users from entering and reading ITS data. This encoding is only loosely secure – it does not represent genuine encryption.)</p> <p>To disable this encoding, set <i>Secure</i> to 0.</p>

Maintaining Diagnostics Parameters

Maintaining Diagnostics Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

Prerequisites

To enable diagnostics access to an ITS, you must turn on debugging (see [Enabling and Disabling Debugging \[Page 31\]](#)).

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Registry*.
4. Choose *Diagnostics*.
5. You can specify values for the parameters listed in the following table:

Parameter	Description
<i>AutoLock</i>	<p>Specifies whether the password should be reset in the registry after use (see <i>Password</i> below).</p> <p>Possible values are:</p> <ul style="list-style-type: none"> • 0: Password is not automatically reset after use. • 1: Password is automatically reset after a single use, thereby locking access. This is the default value.
<i>Objects</i>	<p>Contains a list of objects separated by commas that can be remotely accessed.</p> <p>Possible objects are <code>registry</code>, <code>cp2iso.def</code>, <code>cp2sap.def</code>, <code>global.srv</code>, <code>*.srv</code>, <code>agate.trc</code>, <code>manager.trc</code>, <code>wgate.trc</code>, <code>sapjulep.trc</code>, <code>sapxgdk.trc</code>, and <code>sapirf.trc</code></p> <p>By specifying <code>*.srv</code>, access to any service file is granted. If you want to grant access to only certain service files, list their names separately (for example, <code>vw01.srv</code>).</p>
<i>Password</i>	<p>Contains the password that must be specified within the request URL to get access to diagnostics information.</p> <p>If a URL does not contain this key (or the value is blank or undefined), access is denied. Use the <i>AutoLock</i> key (see above) to reset the <i>Password</i> automatically after accessing diagnostics information once. This way, the user who gets the password may use it only once. No other user gets the password at all.</p>

Maintaining Diagnostics Parameters

You do not have to restart the ITS to activate these changes.

Maintaining Instance Parameters

Maintaining Instance Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Registry*.
4. Choose *Instances*.
5. You can specify values for the parameters listed in the following table:

Parameter	Description
<i>MaxAGates</i>	Maximum number of AGate processes possible per ITS instance. Do not modify this value.
<i>MinAGates</i>	Minimum number of AGate processes possible per ITS instances. Do not modify this value.
<i>IncAGates</i>	Number of new ITS instances to be created when all existing instances are heavily loaded and new ones are needed. The default value is 1. Do not modify this value.

Maintaining NLS Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

Procedure

6. In the *Main* frame, choose the ITS instance you want to configure.
7. Choose *Configuration*.
8. Choose *Registry*.
9. Choose *NLS*.

You see a list of 2-character language IDs

10. Select the language you want to maintain
11. You can specify values for the parameters listed in the following table:

Parameter	Description
<i>1CharId</i>	One-character language ID.
<i>ISO Charset</i>	ISO character set.
<i>Name</i>	Language.
<i>SapCP</i>	SAP code page specification.
<i>Win32CP</i>	Windows code page specification.

Maintaining Program Parameters

Maintaining Program Parameters



Although the account `itsadmin` is authorized to change registry settings, this should be avoided.

Registry settings should be changed **only** in an emergency or when there is **no other alternative**, and preferably **after prior consultation with SAP**.

Procedure

1. In the *Main* frame, choose the ITS instance you want to configure.
2. Choose *Configuration*.
3. Choose *Registry*.
4. Choose *Programs*.

You can maintain parameters for the following ITS components:

Component	Description
<i>AGate</i>	Application gateway. This is the ITS server process.
<i>SAPjulep</i>	HTML ^{Business} interpreter. Interprets and executes HTML ^{Business} code at runtime.
<i>SAPmpr</i>	Module Provider Interface. In applications that use flow files to define the dialog flow, the Module Provider Interface supports calls to different module types in R/3 (or any other external system).
<i>WGate</i>	Web Gateway. Accepts requests from the Web and passes them to <i>AGate</i> .

5. Choose the component for which you want to set parameter values.

If you chose *AGate* above, you can maintain the following parameter values:

Parameter	Description
<i>AdminEnabled</i>	Enables/disables the ITS debugger: <ul style="list-style-type: none"> • 1 (enabled) • 0 (disabled)
<i>IncWorkThreads</i>	Number of new workthreads to be created when all existing workthreads are in use and new ones are needed. The default value is 1.

Maintaining Program Parameters

<i>loalTraceLevel</i>	Trace level, which specifies low level information about communication. The default value is 0. Do not modify this parameter.
<i>IPChecking</i>	Bit mask, which specifies what part of a request's IP address should be compared with the IP address of the client which originated the session. The default value is 255.255.255.255.
<i>MaxFrames</i>	Maximum number of frames allowed for Web transaction. The number of frames for a single screen is: (number of subscreens) + (number of tab-strips) + 1
<i>MaxReqSize</i>	Maximum number of bytes used to store request data coming in from the Web.
<i>MaxRespSize</i>	Maximum number of bytes allocated for response buffer, which is used to return pages to the Web browser. This is a buffer transmission size. If a page extends beyond this size, multiple transmissions occur. Do not modify this variable.
<i>MaxServiceContextSize</i>	Size of internal buffer used to store service description files. These files are automatically cached at runtime to improve performance.
<i>MaxSessions</i>	Maximum number of sessions allowed. Recommended values are 100 (for workstations) and 2000 (for server machines).
<i>MaxStates</i>	Maximum number of screen states possible over all base screens, where a state is a possible configuration of subscreens in a base screen. For example, a base screen 1000 with three subscreen slots could display subscreens 100, 200, 300, or 100, 200, 400, (where 300 and 400 alternate with each other). Since no other combinations are possible, there are two possible states for base screen 1000.
<i>MaxSubscreenNames</i>	Maximum number of subscreen names. This parameter refers to the number of subscreen slots in an R/3 screen, not the actual subscreens that may fill them). The number of subscreen slot names used is simply the total number of unique names. For example, if a transaction has two screens, one with slots Frame1, Frame2, and Frame3, and the other with Frame3 and Frame4, the number of subscreen names used is four.

Maintaining Program Parameters

<i>MaxSubscreens</i>	<p>Maximum number of screens for each transaction.</p> <p>This means the maximum number of screens visible in the Object Navigator of the ABAP Workbench).</p>
<i>MaxWorkThreads</i>	<p>Maximum number of workthreads allowed for a single AGate process.</p> <p>Recommended values are 4 (for workstations) and 80 (for server machines). The default is 4.</p>
<i>MinReqSize</i>	Minimum size of request buffer. (See <i>MaxReqSize</i> above.)
<i>MinRespSize</i>	<p>Minimum size of response buffer.</p> <p>(See <i>MaxRespSize</i> above.)</p>
<i>MinWorkThreads</i>	<p>Minimum number of workthreads for an AGate process.</p> <p>(See <i>MaxWorkThreads</i> above.)</p>
<i>SapguiDebuggerDelay</i>	<p>Enables a "delayed display" of data passed between R/3 and Web browser.</p> <p>This parameter specifies the number of milliseconds to wait before displaying a single page of data in the SAP GUI window.</p> <p>The default mode ("no-wait": value = 0) causes all data transmitted to flash by in a single stream. Specifying a non-zero value causes the display to halt for that number of seconds after every page of data.</p> <p>Delayed display allows you to examine records individually as they are transferred.</p>
<i>SapguiDebuggerPort</i>	<p>System number of ITS debugger port.</p> <p>Every ITS instance needs a unique debugger port. Possible values are (usually) sapdp00-sapdp99. See the file <code>\winnt\system32\drivers\etc\services</code> for the names defined.</p> <p>This feature is not supported for multiple AGate processes.</p>
<i>TimeoutPercentage</i>	<p>Proportion of timeout granted to high-load sessions.</p> <p>When the maximum number of sessions is reached, the ITS may kill idle sessions before their timeout limits have been reached.</p> <p>For example, if a service has a timeout of 20 minutes, and <i>TimeoutPercentage</i> is 75%, then a session running this service could, in high load situations, be terminated after an idle time of only 15 minutes.</p>
<i>TimeoutSweep</i>	<p>Time (in seconds) that specifies how often the ITS checks for timed-out sessions.</p> <p>ITS sessions that exceed their timeout without sending a request are killed.</p>

Maintaining Program Parameters

If you chose *SAPjulep* above, you can maintain the following parameter values:

Parameter	Description
<i>MaxExFunctions</i>	Maximum number of external functions that an external module can contain. Do not modify this variable.
<i>MaxExModules</i>	Maximum number of external modules that can be handled (that is, loaded) by the HTML ^{Business} interpreter at any one time. Do not modify this variable.
<i>MaxHtmlPPs</i>	Maximum number of cached HTML pages allowed.
<i>AutoPreProc</i>	Include statement (text string), which calls a file containing all the declarations for extensions to HTML ^{Business} . Do not modify this variable.
<i>LowercaseURL</i>	Switch enabling or disabling automatic conversion of URLs to lower case. The default value is 1. In this case, the ITS converts all URLs to lower case. This guarantees file name compatibility in Unix systems, which are case-sensitive. To disable the conversion, set the switch to 0.
<i>StaticTemplates</i>	Switch enabling or disabling HTML ^{Business} template checking. The HTML ^{Business} interpreter manages a cache of HTML ^{Business} templates. When a reference is made to one of these templates, the interpreter checks whether the template has been modified since it was last written to the cache. If changes have been made, the template is reloaded into the cache. This behavior is appropriate for development environments where templates may be modified frequently, but could prove expensive in a production environment where templates are static (that is, rarely modified). For this reason, you can switch this action off by setting the static templates parameter to 1. The default value is 0. In the rare event that templates are modified in a production environment, and the static templates parameter is set, ITS Administration provides a utility that allows you to reload all the cached templates. See Clearing the Template Cache [Page 51] .

Maintaining Program Parameters

If you chose *SAPmpr* above, you can maintain the following parameter values:

Parameter	Description
<i>ProductionMode</i>	<p>Increases system performance in production environments.</p> <p>During development, several changes may be made to the BAPIs or remote-enabled function modules called from flow files, so you should set this parameter to 0 (default). In this case, the ITS retrieves the metadata for each new session.</p> <p>This makes sense in development environments, where flow files are modified frequently, but it can be expensive in production environments where flow files are static (that is, rarely modified). Therefore, you should set this parameter to 1 in production environments. In this case, the ITS gets the metadata only once and uses it for all sessions.</p>
<i>CacheInvalidateHour</i>	<p>Hour of each day that you want to clear cached module call results.</p> <p>This is a 24-hour clock!</p> <p>Use in conjunction with <i>CacheInvalidateMinute</i>.</p>
<i>CacheInvalidateMinute</i>	<p>Number of minutes past the hour specified in <i>CacheInvalidateHour</i> that you want to clear cached module call results.</p> <p>Use in conjunction with <i>CacheInvalidateHour</i>.</p>

If you chose *WGate* above, you can maintain the following parameter value:

Parameter	Description
<i>WebServerName</i>	Name of Web server instance belonging to this ITS instance.

Setting Up File Security

File security determines who is allowed access to ITS files.

ITS supports three levels of file security, as summarized in the following table:

Security Level	Authorized Group(s)	Remarks
Everyone	No restrictions.	
ITS Administrator Group and ITS User Group	ITS administrators in ITS Administrator Group and ITS users in ITS User Group.	<p>Access to files is restricted, but certain users may need access to some files.</p> <p>For example, developers or designers may need to modify HTML templates files.</p> <ul style="list-style-type: none"> The ITS Administrator Group is a Windows NT group that contains each authorized administrator account. The ITS User Group is a Windows NT group that contains each authorized user account.
ITS Administrator Group Only	ITS administrators in ITS Administrator Group only.	<p>Access to files is restricted to administrators only.</p> <p>Appropriate for running ITS in live production environment.</p>

ITS file security is implemented during ITS setup, but you can modify this for each ITS instance using ITS Administration.

Procedure

To modify file level security:

1. In the *Main* frame, choose an ITS instance.
2. Choose *Security*.
3. Choose *File Security*.
4. Select a file security level and enter the required information:

Security Level	Description

Setting Up File Security

<i>ITSADMIN</i>	<p>Restricts access to administrators in ITS Administrator Group only.</p> <p>Users have read access to files, but only administrators in ITS Administrator Group can modify them.</p> <p>If you choose this option, enter values for <i>Admin Account</i>, <i>Admin Password</i>, <i>Admin Group</i>, and <i>Web Server Account</i>.</p>
<i>ITSADMIN+ITSUSER</i>	<p>Restricts access to administrators in ITS Administrator Group and users in ITS User Group:</p> <p>Administrators in ITS Administrator Group have read/write access to all files.</p> <p>Users in ITS User Group have read/write access to a predefined subset of ITS files, and read access to other files.</p> <p>Other users have read access to all files, but cannot modify them.</p> <p>If you choose this option, enter values for <i>Admin Account</i>, <i>Admin Password</i>, <i>Admin Group</i>, <i>Web Server Account</i>, and <i>User Group</i>.</p>
<i>EVERYONE</i>	Grants all users read/write access to all ITS files.

5. Save your changes.

Setting Up Network Security

Network security determines the communication method between the WGate and AGate components of the Internet Transaction Server (ITS).

ITS network security is implemented during ITS setup, but you can modify this for each ITS instance in ITS Administration.

Procedure

To modify network security:

4. In the *Main* frame, choose an ITS instance.
5. Choose *Security*.
3. Choose *Network Security*.
4. Select the communication method operating for your ITS installation:

Communication Method	Description
<i>Socket</i>	Causes encoding (but not formal encryption) of all transmissions between WGate and AGate. To enable encoded transmissions, choose <i>Secure On</i> .
<i>NI</i> (Network Interface)	Causes encoding (but not formal encryption) of all transmissions between WGate and AGate. To enable encoded transmissions, choose <i>Secure On</i> .
<i>NISNC</i> (Network Interface Secure Network Communication)	If you want your transmissions encrypted, you must enter the distinguished SNC names for the WGate and AGate components. If you don't want encryption, you can leave these fields blank.

6. Save your changes.

Flushing Log Files

Flushing Log Files

For performance reasons, log file information is written to a cache, not directly to the log files themselves. When the cache exceeds a specified size, the contents of the cache are flushed to the log file. This behavior means that the log files may not always contain the latest information.

To enable the user to view the latest information, ITS Administration allows you to flush the contents of the cache to the log file any time.

Procedure

To flush the contents of the cache to the log file:

1. In the *Main* frame, choose an ITS instance.
2. Choose *Utilities*.
3. Choose *Flush Logs*.

Result

ITS Administration refreshes the contents of the log file from the cache.

Clearing the Template Cache

The ITS manages a cache of HTML^{Business} templates.

When a reference is made to one of these templates, the ITS checks whether the template has been modified since it was last written to the cache. If changes have been made, the template is reloaded into the cache.

This behavior makes sense in development environments where templates may be modified frequently, but it can be expensive in production environments where templates are static (that is, rarely modified). For this reason, you can [switch off the caching mechanism \[Page 21\]](#) by setting the `StaticTemplates` parameter to 1.

If you are obliged to modify templates in a production environment, and this parameter is set to 1, ITS Administration provides a utility that allows you to reload all the cached templates.

Procedure

To clear the template cache:

1. In the *Main* frame, choose an ITS instance.
2. Choose *Utilities*.
3. Choose *Clear Template Cache*.

Result

ITS Administration clears the cache and reloads the cached templates.

Clearing Cached Data

Clearing Cached Data

When a user starts an application where the flow logic defined in flow files makes module calls to the R/3 System, the data resulting from these module calls is cached by the ITS. This eliminates the overhead of continually accessing R/3, and considerably improves system performance.

There are two ways to refresh the cache. You can:

- Clear the cache explicitly.
To do this, use the utility function described in the procedure below.
- Specify a fixed time every day for the ITS to clear the cache automatically.
To do this, you set values for the performance parameters `CacheInvalidateHour` and `CacheInvalidateMinute`. See [Changing Performance Parameters \[Page 21\]](#).

Procedure

To clear the cache explicitly:

1. In the *Main* frame, choose an ITS instance.
2. Choose *Utilities*.
3. Choose *Invalidate Cache*.

Result

ITS Administration clears the cached data.

Displaying HTML Templates

ITS Administration allows you to display the HTML templates and other ITS files for all services and themes published on each ITS server.

Procedure

4. In the *Main* frame, choose the ITS instance you want.
5. Choose *View Templates*.
6. Choose *Services*.
7. In the *Service Themes* frame, choose a theme.

The default theme 99 may be the only option.

8. In the *Service Templates* frame, click the name of the file you want to display.
 - Files with the extension `.html` are HTML templates.
 - Files with the extension `.flow` are flow files.
 - Files with the extension `.htrc` are language resource files.

Result

ITS Administration displays the relevant file.

Log Files

Log Files

The Internet Transaction Server (ITS) keeps logs about access requests, diagnostics, load statistics, and performance. These logs and their internal handling are distinct from traces, which are written to keep track of errors that occur at runtime.

All AGate instances write to the same log file and the different types of log file are all stored in the same directory. By default, this directory is the directory `Logs` in the ITS directory (usually `<drive:>\Program Files\SAP\ITS\Logs`).

ITS log files are ASCII files, which have the file extension `.log`. To view these files, you can either assign a default viewer such as the Windows NT application Notepad, or use ITS Administration.

Log File Types

There are four main ITS log file types:

Log File	Description
Access logs	Access logs contain statistical information about ITS service usage. This information allows you to check how many requests have been made to a certain ITS service, or whether any illegal accesses have been attempted.
Load statistics logs	Load statistics logs contain information about the current AGate load. This information allows you to tune the ITS installation to handle high loads at your site.
Diagnostics logs	Diagnostics logs contain all diagnostics information passed to a client when requested in the URL command <code>~command=diagnostics</code> .
Performance logs	Performance logs contain information about ITS and system performance. This information includes session and workthread usage, request load and turnaround time, CPU usage, and other statistics.

See also:

[Access Logs \[Page 55\]](#)

[Load Statistics Logs \[Page 57\]](#)

[Diagnostics Logs \[Page 59\]](#)

[Performance Logs \[Page 60\]](#)

Access Logs

Access logs contain statistical information about ITS service usage. This information helps you identify possible attacks or illegal requests made from the Internet to the site by unauthorized users.

Access logs contain one entry for each request processed by the AGate component of the Internet Transaction Server (ITS).

Access logs are stored in the file `access.log` (or `access_*.log` in the case of archived versions).

Each log entry contains the following information:

- A single character specifying the type of entry. Possible values are:
 - (blank): Normal entry No problems detected by the ITS.
 - **W** Warning Usually issued when an access with an invalid session ID was denied due to an invalid random part.
 - **A** Alert Usually issued when access was attempted with an invalid session ID.
- Date and time (local machine time) the entry was created.
- Number of the AGate instance that created the entry.
This numbering starts with 0.
- Sequence number of the request since the last restart of the ITS.
This number is preceded by a # .
- IP address of the remote host that issued the request.
Retrieved from `Remote_Addr`, this value is preceded by the word "IP". If the IP address cannot be determined, or the entry was created due to an ITS action, the value is set to `???.???.???.???`.
- Request-specific information (described below).

Error Entries

Following the general information, error messages may also be appended, if an access error has occurred. For example, an entry for an error like "access with invalid random key: 264fc4da" might look like this:

```
w 1997/05/19 19:43:56.125: 0 : IP 207.104.133.171, access with
invalid random key: 264fc4da
```

Command Execution Entries

Whenever a command is executed in response to a `~command=...` in the request URL, the ITS writes an entry logging the name of the command. For example, a entry for the "command fieldDump" might look as follows:

Access Logs

```
1997/05/19 19:45:22.625:    0 #56: IP 207.104.133.171,  command
fieldDump
```

Session Entries

Each request to a service or session is logged with the following details:

- Starting a session: ***<service name>**
- Stopping a session: +**<service name>**
- Access to running session: **<service name>** (no leading * or +).
- Timeout of a session: -**<service name>**

Each entry's service name is followed by the logon account name for the session.

A typical entry looks like this:

```
1997/05/19 19:45:47.750:    0 #58: IP 207.104.133.171, *paw1,
CONSUL
```


Load Statistics Logs

Load statistics logs contain information about the current load handled by all the AGate instances running.

Written to the load statistics log about once per minute, this information helps you to identify high-load situations at your site, and fine-tune your ITS installation accordingly.

The load statistics log is stored in the file named `loadstat.log` (or `loadstat_*.log` in the case of archived versions).

For each AGate instance running, the ITS writes a line with the following syntax:

```
<date> <time>:    <agateid>: w=<weight> s=<s_avail>/<s_max>
w=<w_avail>/<w_max> h/s=<hps> tat=<tat>
```

The arguments have the following meaning:

Argument	Meaning
<date>	The date the entry was written, in format yyyy/mm/dd
<time>	The time the entry was written, in format hh:mm:ss:msec
<agateid>	The ID of the AGate instance (starting with 0)
<weight>	The weight of the AGate. This weight is an aggregate measure (0..1) describing how suitable a certain AGate instance is to handle further requests. Values closer to 1 mean the AGate instance is more able to handle a new service request. Values closer to 0 mean that this instance should not process any more requests. The weight value is calculated from other values in this log entry (e.g. available session) using a non-linear weight-function.
<s_avail>	The number of currently available sessions within the AGate instance.
<s_max>	The maximum number of sessions this AGate instance can handle.
<w_avail>	The number of currently available (that is, idle) workthreads within the AGate instance.
<w_max>	The maximum number of workthreads this AGate instance hosts.
<hps>	The average number of hits per second this AGate instance has handled.
<tat>	The average turnaround time for this instance. This is the time taken from receiving a request in AGate until sending the last byte of the response.

After logging this information for each currently running instance, the ITS writes a summary line with the syntax:

```
<date> <time>:    Total <#agates>: <s_t_avail>/<s_t_max> #<req_count>
```

The meaning of the arguments is:

Argument	Meaning

Load Statistics Logs

<code><date></code>	The date the entry was written in format yyyy/mm/dd
<code><time></code>	The time the entry was written in format hh:mm:ss:msec
<code><#agates></code>	The number of AGate instances currently running.
<code><s_t_avail></code>	The total number of currently available sessions in all AGate instances.
<code><s_t_max></code>	The total number of sessions all AGate instances can handle together.
<code><req_count></code>	The number of requests handled since the last (re)start of the ITS.

Diagnostics Logs

Diagnostics logs contain a copy of all the diagnostics information passed to a client when the client requested it with the URL command `~command=diagnostics`.

The diagnostics log is stored in the file named **diagnostics.log** (or **diagnostics_*.log** in the case of archived versions).

Diagnostics logs do not follow any formal syntax, since they contain copies of the requested diagnostics information. Also, since the diagnostics information itself does not contain security-relevant information, the diagnostics log does not either.

Performance Logs

Performance Logs

Performance logs contain information about the performance of the AGate instances running.

You use performance logs to monitor and tune ITS performance.

See also:

[Monitoring ITS Performance \[Page 18\]](#)

[Changing Performance Parameters \[Page 21\]](#)

Default Log File Handling

The Internet Transaction Server (ITS) has standard procedures for creating, maintaining, and deleting log files, but you can customize these procedures.

A log file has three states during its lifetime:

- State 1: The log is the current log (for example, `loadstat.log`).
- State 2: The log is archived (for example, `loadstat_01bc67292f8c86b0.log`).
- State 3: The log is buried (and usually no longer exists).

The transition from one state to the next is controlled by the *FileSize* and *TimeToLive* parameters:

- The *FileSize* parameter specifies the maximum size for a log file before it is archived
- The *TimeToLive* parameter specifies the time-to-live of an archived log:

Archiving Log Files

If the current log file exceeds its maximum allowed file size as specified in the *FileSize* parameter, the ITS archives the file. To do this, it must

1. Closes the current log (for example, `access.log`)
2. Expand the current log name to create a unique name (for example, `access_01bc67292f8c86b0.log`)
3. Reopen a new empty log file (for example, `access.log`) as the current log

Burying Log Files

Whenever the ITS archives a log file, it checks whether any already-archived logs have exceeded their time-to-live as specified in the *TimeToLive* parameter. If so, the archived log file is "buried". Burying an archived log usually means deleting it, although this behavior can be configured. For example, you can also compress the file and copy it to another location such as a tape drive.

Burial Commands

Burial Commands

You can specify a burial command for each type of log file. This command specifies how an archived log file should be handled, once its *TimeToLive* limit has been reached.

The default handling is to delete the file:

- If you do not specify a value for the *BurialCmd* parameter (or specify an incorrect value), the ITS automatically deletes the expired file.
- If you specify a value for the *BurialCmd* parameter, the ITS attempts to run it in a command shell. For this reason, the command you specify must be a valid command-line command.

You can use any valid shell command. The macro commands listed in the table below are also provided for getting information about the archived file dynamically at runtime.

Since you may need certain information about the current log file for which your command was called, you can use the following parameters that are expanded at runtime by the ITS before calling your command:

Macro	Description
%p	Replaced by the full path of the current log file. For example, %p could be replaced by: C:\Program Files\SAP\ITS\Logs\access_01bc67292f8c86b0.log
%d	Replaced by the directory of the current log file. For example: C:\Program Files\SAP\ITS\Logs
%a	Replaced by the name of the archive without extension and index. For example: Access
%f	Replaced by the current log-file name with extension and index. For example: access_01bc67292f8c86b0.log
%i	Replaced by the current log file index. For example: 01bc67292f8c86b0



To copy a log file to another drive (for example, a tape drive) instead of deleting it, you could specify the following for *BurialCmd*:

```
copy "%p" X: && del "%p"
```

Monitoring System Information

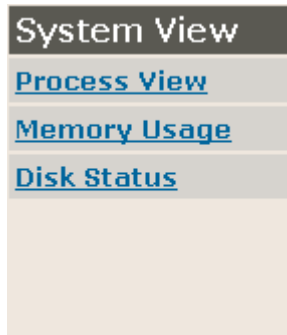
Use

You use this procedure to monitor system information about the host on which the administration ITS instance runs.

Procedure

1. In the *Main* frame, choose *System View*

You have three options:



- To list all processes running on the ADM host and how much CPU time they use, choose *Process View*:

Process View Thu Aug 20 18:09:27 1998		
Process Name	PID	CPU %
Idle.exe	0	93
System.exe	2	0
smss.exe	25	0
csrss.exe	33	0
WINLOGON.exe	39	0
SERVICES.exe	47	0
LSASS.exe	50	0

- To display the physical and virtual memory resources on the ADM host, choose *Memory Usage*:

Monitoring System Information

Memory Usage Thu Aug 20 18:12:22 1998	
Memory Load %	0
Total Physical Memory (kb)	130488
Avail Physical Memory (kb)	75888
Total Virtual Memory (kb)	2097024
Avail Virtual Memory (kb)	2020612

- To display disk space availability on the ADM host, choose *Disk Status*:

Disk Status Thu Aug 20 18:15:33 1998	
Total Disk Space (kb)	6297448
Free Disk Space (kb)	3987672

ITS Administration in R/3

The R/3 System provides tools for performing the following tasks:

- Maintaining Source Controlled Objects

This tool allows you to assign source-controlled ITS objects to change requests. This assignment is necessary for checking objects in and out.

See [Assigning Files to a Change Request \[Ext.\]](#)

- Maintaining Internet Users

This tool allows you to manage Internet user data (user and password) for individual users. You can implement additional user-specific authorizations for Internet Application Components (IACs) that use generic logons to connect to R/3.

See [Maintaining Internet Users \[Page 66\]](#)

- Maintaining Non-Source Controlled Web Objects

This tool allows you to maintain Web objects that are not subject to source control. You can, for example, modify a SAP standard template, design your own template, or maintain any other Web object.

See [Maintaining Web Objects \[Ext.\]](#)

Maintaining Internet Users

Maintaining Internet Users

Some Internet Application Components (IACs) require users to enter an individual user name and password in order to log on to the R/3 System.

Other IACs do not require this information, because they use a generic or IAC-specific user for logon. However, users may still need to provide some identification. In a product catalog, for example, you may be free to browse anonymously, but you have to identify yourself as a known customer when placing an order.

For IACs that use a generic or IAC-specific user to logon to the R/3 System, there is an R/3 transaction for maintaining Internet users. This transaction allows you to create Internet users and maintain user data (such as passwords). Internet users are identified by:

- User name
- User type

The user type is based on the IACs which the user wants to run.

This information, which is client-specific and stored in the table BAPIUSW01, is used as an extension of the user's existing master record. When Internet users log on, the details are checked against the information in BAPIUSW01, and unauthorized users are rejected.

Procedure

To maintain Internet users in R/3:

1. Log on to the R/3 System in the appropriate client.
2. Choose *Tools* → *Administration*.

You see the *System Administration* screen.

3. Choose *User maintenance* → *Internet users*.

You see the *Maintain Internet User* screen, where you can:

- Create an Internet user
- Change an Internet user
- Lock or unlock an Internet user

You use this function to disable Internet users (that is, prevent them from running IACs), enable those you have disabled beforehand, and enable those who have been disabled automatically after 12 unsuccessful logon attempts.

- Delete an Internet user
- Change the Internet user password
- Initialize the Internet user password

4. Follow the appropriate procedure in the table:

To	Procedure
----	-----------

Maintaining Internet Users

Create	<ol style="list-style-type: none"> 1. Enter the user ID and user type. 2. Choose <i>Create</i>. <p>The system returns an initial password for the user. Note this password, if you want to give it to the user. Choose <i>Change password</i> to specify a new, less cryptic password.</p> <ol style="list-style-type: none"> 3. Give the user ID and password you have created to the user.
Change	<ol style="list-style-type: none"> 1. Enter the user ID and user type. 2. Choose <i>Change</i>. 3. Enter new user ID and/or change the validity period. 4. Press Enter.
Lock or unlock	<ol style="list-style-type: none"> 1. Enter the user ID and user type. 2. Choose <i>Lock/unlock</i>.
Delete	<ol style="list-style-type: none"> 1. Enter the user ID and user type. 2. Choose <i>Delete</i>. 3. Confirm deletion
Change password	<ol style="list-style-type: none"> 1. Enter the user ID and user type. 2. Choose <i>Change password</i>. 3. Enter new password twice. 4. Press Enter.
Initialize password	<ol style="list-style-type: none"> 1. Enter the user ID and user type. 2. Choose <i>Initialize</i>. 3. Confirm initialization.

ITS Directory Structure

ITS Directory Structure

All the files used by the ITS reside in two root directories, which are created during the ITS installation procedure and entered in the Windows NT registry.

- One directory is part of the main ITS directory structure
Service files, HTML templates, and language resource files are stored in this directory.
- One directory is a subdirectory of the Web server directory
Static files such as graphics and images are integrated into HTML pages by the Web server, not by the ITS. For this reason, these files are stored in the Web server directory, not in the main ITS directory structure.

The default names for the root directories are:

- **C:\Program Files\SAP\ITS\2.0\<virtual ITS>**
This is the main ITS directory structure.
Within the main directory are two sub-directories called **Services** and **Templates**.
 - The **Services** sub-directory contains transaction-specific and global service descriptions.
 - The **Templates** directory contains HTML templates and language resource files.
This directory also contains further sub-directories,
 - A directory for each service
Each service directory contains one sub-directory for each theme within the service. A theme sub-directory has the same two-character name as the theme it contains. The HTML templates and language resources are contained either in the service directory or in the sub-directory for each theme.
 - A directory called **system**
The **system** directory contains predefined HTML templates (for example, error message templates) that are copied when the ITS is installed.
- **C:\Inetpub\wwwroot-<virtual ITS>**
This is a subdirectory of the Web server directory.
Within this subdirectory are two further subdirectories:
 - **\SAP\ITS\GRAPHICS**
This subdirectory contains static graphics files, which are integrated into the HTML page by the Web server.
Since these files are stored in the Web server directory and not in the ITS directory structure, URLs referencing them should not be hard-coded in the HTML templates. To determine the URLs at runtime, you should use the **imageURL** function.
The **~URLimage** variable in the global service file refers to the subdirectory **SAP\ITS\GRAPHICS** in the directory structure of the Web server. This subdirectory

ITS Directory Structure

contains further subdirectories called **Background** , **Button** , **Image** and **Ismap** , which are sub-divided by theme.

– **\SAP\ITS\MIMES**

This subdirectory contains static image files, which are integrated into the HTML page by the Web server.

Since these files are stored in the Web server directory and not in the ITS directory structure, URLs referencing them should not be hard-coded in the HTML templates. To determine the URLs at runtime, you should use the **mimeURL** function.

The **~URLmime** variable in the global service file refers to the subdirectory **SAP\ITS\MIMES** in the directory structure of the Web server.

ITS Service Parameters

ITS Service Parameters

An Internet Transaction Server (ITS) service is the set of files required by the ITS to run an Internet application from a Web browser. Each service can comprise up to five file types.

- There is always a service file and one or more HTML templates.
- There may also be flow files, language resources, and Multipurpose Internet Mail Extension (MIME) files.

The service file contains the service description, which is the set of parameters that defines how the service should run. If some of these parameters are not defined at runtime, the ITS may derive some values from the global service file (`global.srvc`), which is created during ITS setup and defines parameter values for all services. The values defined in individual service files always override values in the global services file.

Some parameters are defined during ITS setup and should not be changed. Others can (or even must) be changed during development or before going live.

The following table lists the most important service parameters. For a complete list, see [Service Parameter Summary \[Page 71\]](#).

Parameter	Example	Meaning
~login [Page 88]	bksmith	R/3 user name
~client [Page 75]	800	R/3 client
~language [Page 86]	en	R/3 logon language
~password [Page 92]	des26(82c2f25498c7bf2d)	R/3 System user password This is DES encrypted.
~transaction [Page 116]	zb37	R/3 transaction
~systemName [Page 110]	M11	R/3 System name
~exiturl [Page 81]	http://www.sap.com	URL of a static HTML document, called when a transaction has ended
~timeout [Page 115]	20	User session timeout in minutes
~loginGroup [Page 89]	PUBLIC	Login group for load balancing
~messageServer [Page 90]	kansas	Message server

Service Parameter Summary

The following service parameters are defined for use in service files.

[~appServer \[Page 73\]](#)

[~autoScroll \[Page 74\]](#)

[~client \[Page 75\]](#)

[~codepage \[Page 76\]](#)

[~codepage <lang-code> \[Page 77\]](#)

[~command \[Page 78\]](#)

[~connectString \[Page 79\]](#)

[~date \[Page 80\]](#)

[~exitURL \[Page 81\]](#)

[~forceTarget \[Page 82\]](#)

[~frameName \[Page 83\]](#)

[~interpreter \[Page 84\]](#)

[~itsVersion \[Page 85\]](#)

[~language \[Page 86\]](#)

[~languages \[Page 87\]](#)

[~login \[Page 88\]](#)

[~loginGroup \[Page 89\]](#)

[~messageServer \[Page 90\]](#)

[~okcode \[Page 91\]](#)

[~password \[Page 92\]](#)

[~poolclient \[Page 93\]](#)

[~poollogin \[Page 94\]](#)

[~poolpassword \[Page 95\]](#)

[~repository \[Page 96\]](#)

[~rfcDebuggingOn \[Page 97\]](#)

[~rfcDetailedError \[Page 98\]](#)

[~rfcGatewayHost \[Page 99\]](#)

[~rfcGatewayService \[Page 100\]](#)

[~rfcHostName \[Page 101\]](#)

[~rfcSystemType \[Page 102\]](#)

[~rfcTimeOut \[Page 103\]](#)

[~rfcTraceOn \[Page 104\]](#)

Service Parameter Summary

[~routeString \[Page 105\]](#)

[~service \[Page 106\]](#)

[~sources \[Page 107\]](#)

[~state \[Page 108\]](#)

[~syncBehaviour \[Page 109\]](#)

[~systemName \[Page 110\]](#)

[~systemNumber \[Page 111\]](#)

[~target \[Page 112\]](#)

[~theme \[Page 113\]](#)

[~time \[Page 114\]](#)

[~timeout \[Page 115\]](#)

[~transaction \[Page 116\]](#)

[~unixTime \[Page 117\]](#)

[~urlArchive \[Page 118\]](#)

[~urlImage \[Page 119\]](#)

[~urlWGate \[Page 120\]](#)

[~userAgentType \[Page 121\]](#)

[~userAgentVersion \[Page 122\]](#)

[~usertimeout \[Page 123\]](#)

[~xgateway \[Page 124\]](#)

[~xgateways \[Page 125\]](#)

~appServer

Description:	The name of the application server to connect.
Initialized by:	Service file
Example:	~appServer ides.sap.com ~routeString /H/sapserv4.sap.com ~systemNumber 00

~autoScroll

~autoScroll

Description:	Disables automatic scrolling for step loops. Must be explicitly set to prevent scrolling.
Initialized by:	Service file
Example:	~autoScroll disabled

~client

Description:	R/3 client.
Initialized by:	Service file or request (if not defined in service file)
Example:	~client 001

~codepage

~codepage

Description:	The WIN32 code page used to store language independent HTML templates.
Initialized by:	Service file
Example:	~codepage 1252

~codepage_<lang-code>

Description:	The WIN32 code page used to store language-specific HTML templates or resource files. * must be replaced by the language the code page should be set for.
Initialized by:	Service file
Example:	~codepage_e 1252 ~codepage_d 1252 ~codepage_j 932 ~codepage_r 1251

~command

~command

Description:	The name of the command to execute. The command interface must be enabled to allow execution of commands, so the registry key "AdminEnabled" must be set to "1".
Initialized by:	Request
Example:	<code>http://.../scripts/wgate.dll/VW01/?~command=fieldDump</code>

~connectString

Description:	Specifies the connect path (including routing information) to the R/3 application server.
Initialized by:	Service file
Example:	~connectString /H/sapserv4/H/ides.sap.com/S/sapdp00

~date

~date

Description:	The date of the current request.
Initialized by:	ITS
Example:	12/22/97

~exitURL

Description:	The URL to which a request is redirected if a session is terminated by the OK code /NEX .
Initialized by:	Service file
Example:	~exitURL http://www.sap.com/



You can set this parameter at program runtime either by passing the value in the URL or by making FIELD-SET calls in the application program.

~forceTarget

~forceTarget

Description:	Overrides client sensing for automatic determination of frame targets.
Initialized by:	Service file or HTML ^{Business} code
Example:	~forceTarget 1



Dynamic determination for Netscape browsers in multiframe applications is no longer supported. Consequently, this parameter is obsolete, because this is now the **default** behavior for the ITS.

If you are using templates from an earlier ITS version, the HTML code may still contain this parameter, but it no longer has any effect. You can either delete it or leave it in the code.

~frameName

Description:	Specifies the frame name of the current request. This parameter must be used in a frameset document.
Initialized by:	HTML ^{Business} code
Example:	<code><frame name="MainFrame" src="wgateURL(~frameName="MainFrame")" ...></code>

~interpreter

~interpreter

Description:	Specifies the interpreter dll to use with the ITS. Currently this parameter must be set to "sapjulep.dll"
Initialized by:	Service file
Example:	~interpreter sapjulep.dll

~itsVersion

Description:	ITS version number.
Initialized by:	ITS
Example:	1.0.00 Build 46

~language

~language

Description:	Specifies the logon language for a service.
Initialized by:	Service file or request (if not defined in service file)
Example:	~language E

~languages

Description:	Specifies the set of languages a certain service supports.
Initialized by:	Service file
Example:	~languages E, D, J

~login

~login

Description:	R/3 user account.
Initialized by:	Service file or request (if not defined in service file)
Example:	~login <user name>

~loginGroup

Description:	Specifies the login group if a message server is used to connect to an R/3 application server. Do not specify the routing path within the ~messageServer field.
Initialized by:	Service file
Example:	~messageServer ides.sap.com ~routeString /H/sapserv4.sap.com ~loginGroup ITS ~systemName R30

~messageServer

~messageServer

Description:	Specifies the connect path to an R/3 message server unless an R/3 application server is defined for the service. Do not specify the routing path within the ~messageServer field.
Initialized by:	Service file
Example:	~messageServer ides.sap.com ~routeString /H/sapserv4.sap.com ~loginGroup ITS ~systemName R30

~okcode

Description:	The OK code to execute.
Initialized by:	Request
Example:	<code>http://.../scripts/wgate.dll/VW01/?~okcode=/SLCT</code>

~password

~password

Description:	R/3 logon password. If you are using the SAP@Web Studio, the password is DES encrypted.
Initialized by:	Service file or request (if not defined in service file).
Example:	~password des26(8a1766fb98dd2906) ~password geheim

~poolclient

Description:	R/3 client for pooled connections. If this parameter is not defined, the ~client parameter is used.
Initialized by:	Service file
Example:	~client 001

~poollogin

~poollogin

Description:	R/3 user account for pooled connections. If this parameter is not defined, the ~login parameter is used.
Initialized by:	Service file
Example:	~login <user name>

~poolpassword

Description:	R/3 logon password for pooled connections. If this parameter is not defined, the ~password parameter is used. If you are using the SAP@Web Studio, the password is DES encrypted.
Initialized by:	Service file.
Example:	~password des26(8a1766fb98dd2906) ~password <password>

~repository

~repository

Description:	The repository dll to use with the ITS. Currently this field must be set to "sapirf.dll".
Initialized by:	Service file
Example:	~repository sapirf.dll

~rfcDebuggingOn

Description:	Set this parameter to 1 to debug RFC session via the SAPgui. The default value is 0, i.e. no debugging.
Initialized by:	Service file
Example:	~rfcDebuggingOn 1 ~rfcDebuggingOn 0

~rfcDetailedError

~rfcDetailedError

Description:	Set this parameter to 1 to display detailed error messages for RFC sessions. The default value is 0.
Initialized by:	Service file
Example:	~rfcDetailedError 1 ~rfcDetailedError 0

~rfcGatewayHost

Description:	Defines the name of the gateway host for RFC sessions. Make sure that you specify the full path including router information.
Initialized by:	Service file
Example:	~rfcGatewayHost /H/sapserv4/H/ides.sap.com

~rfcGatewayService

~rfcGatewayService

Description:	Defines the gateway service for RFC sessions.
Initialized by:	Service file
Example:	~rfcGatewayService sapgw00

~rfcHostName

Description:	Defines the R/3 server address. This parameter is required if neither ~messageServer nor ~appServer is specified.
Initialized by:	Service file
Example:	~rfcHostName ides.sap.com

~rfcSystemType

~rfcSystemType

Description:	Defines the SAP system type for RFC sessions. Possible values: R2, R3, R3B (R/3 using load balancing) R2 is currently not supported.
Initialized by:	Service file
Example:	~rfcSystemType R3

~rfcTimeOut

Description:	Defines the timeout for an RFC call in minutes.
Initialized by:	Service file
Example:	~rfcTimeOut 10

~rfcTraceOn

~rfcTraceOn

Description:	Use "1" to enable tracing for RFC calls.
Initialized by:	Service file
Example:	~rfcTraceOn 1

~routeString

Description:	Defines the router path if ~appServer or ~messageServer is used. If both ~routeString and ~connectString are specified, ~routeString is concatenated to ~connectString.
Initialized by:	Service file
Example:	~connectString /H/ides.sap.com/S/sapdp00 ~routeString /H/sapserv4.sap.com results in /H/sapserv4.sap.com/H/ides.sap.com/S/sapdp00

~service

~service

Description:	ITS service name.
Initialized by:	Service file
Example:	PA30

~sources

<p>Description:</p>	<p>Specifies the services which contain the HTML templates used by the current service. This enables you to re-use the same HTML templates for several services.</p> <ul style="list-style-type: none"> • If you specify more than one service (that is, the current service and one or more other services), the HTML templates reside either under the current service or under the other service(s). You must specify the current service first. • If you specify only one service, it must be the current service. This means that all the HTML templates reside under this service. In this case, you can leave the value of <code>~sources</code> blank, because the current service is the default.
<p>Initialized by:</p>	<p>Service file</p>
<p>Example:</p>	<p><code>~sources WW20, VW01</code></p> <p>Here, the current service is WW20, but one or more of the HTML templates used by that service reside under the service VW01.</p>

~state

~state

Description:	Internal use only.
Initialized by:	ITS

~syncBehaviour

Description:	Specifies the resynchronization behaviour of a service. Allowed values: noResync, ignoreResync
Initialized by:	Service file
Example:	~syncBehaviour noResync

~systemName

~systemName

Description:	The name of the R/3 system if load balancing is used (~messageServer must be defined).
Initialized by:	Service file
Example:	~messageServer ides.sap.com ~routeString /H/sapserv4.sap.com ~loginGroup ITS ~systemName R30

~systemNumber

Description:	The number of the R/3 system if ~appServer is specified.
Initialized by:	Service file
Example:	~appServer ides.sap.com ~routeString /H/sapserv4.sap.com ~systemNumber 00

~target

~target

Description:	The name of the frame the response should be directed to. Works only with Netscape Communicator.
Initialized by:	Request HTML ^{Business} code
Example:	 ...

~theme

Description:	The theme of the templates and MIME data to use for a service. Must be a two digit number.
Initialized by:	Service file or Request
Example:	~theme 99

~time

~time

Description:	The time of the current request.
Initialized by:	ITS
Example:	14:10:59

~timeout

Description:	The time in minutes from the last request during a user session until the session is automatically terminated. See also ~usertimeout [Page 123] .
Initialized by:	Service file
Example:	~timeout 15

~transaction

~transaction

Description:	The name of the transaction associated with the service.
Initialized by:	Service file
Example:	~transaction PAW1

~unixTime

Description:	The time and date of the current request in UNIX time format.
Initialized by:	ITS
Example:	Thu Feb 27 16:39:28 1997

~urlArchive

~urlArchive

Description:	The URL pointing to the archive dll if installed. Used by the HTML ^{Business} function archiveURL().
Initialized by:	Service file
Example:	~urlArchive /scripts/sapawl.dll

~urlImage

Description:	The URL pointing to the root of the image directories. Used by the HTML ^{Business} function imageURL().
Initialized by:	Service file
Example:	~urlImage /sap/its/graphics

~urlWGate

~urlWGate

Description:	The URL pointing to the Wgate dll. Used by the HTML ^{Business} function wgateURL().
Initialized by:	Service file
Example:	~urlWGate /scripts/wgate.dll

~userAgentType

Description:	The type of the user agent (browser) the current request is sent from. Possible values are: 0 = unknown 1 = Netscape Communicator 2 = Microsoft Internet Explorer
Initialized by:	Request

~userAgentVersion

~userAgentVersion

Description:	The version of the user agent (browser) the current request is sent from. The value "30" means version 3.0
Initialized by:	Request

~usertimeout

Description:	<p>The time in minutes that a user context (client, user, and password) is retained after the session timeout period defined by the parameter ~timeout [Page 115] has expired:</p> <ul style="list-style-type: none">• If the user logs on again before the time defined by ~usertimeout has expired, no logon information is required.• If the time defined by ~usertimeout has expired, the user must enter logon information again.
Initialized by:	Service file
Example:	~usertimeout 15

~xgateway

~xgateway

Description:	The name of the Xgateway DLL to use for the service. All valid Xgateway names must be declared in ~xgateways.
Initialized by:	Service file
Example:	~xgateway SAPXGwfc.dll ~xgateway

~xgateways

Description:	Defines all valid Xgateway DLLs (comma separated list). Currently only SAPXGwfc is supported.
Initialized by:	Service file
Example:	~xgateways SAPXGwfc, SAPXGxxx

ITS Native Language Support

ITS Native Language Support

Native Language Support (NLS) defines how the ITS handles multiple languages by supporting different character sets and code pages.

The ITS supports multiple languages through the Unicode character set (ISO 10646), which is used by the Windows NT 4.0 operating system. This approach avoids the more complicated handling of multi-byte character sets (MBCS) inside the ITS.

However, when the ITS interfaces with the outside world, (for example, with the file system, the Web server, or R/3), it can convert from Unicode to whatever multi-byte code page is required. This enables the future support of Unicode on both the client side and the server side.

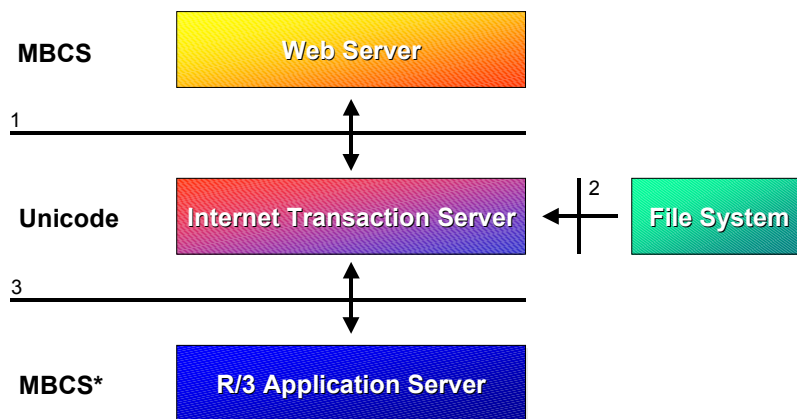
The ITS can handle several character sets or code pages at three distinct interfaces:

- The interface to Web servers such as the Microsoft Internet Information Server (IIS) or the Netscape Enterprise Server (NES)
- The interface to the file system from which it reads HTML templates and service descriptions
- The interface to the R/3 application server (using the DIAG protocol)

Conversion from and to Unicode takes place at all three interfaces. When configuring the ITS, you must therefore provide information about the code pages to be used.

The following graphic shows the three interfaces:

ITS Character Set Handling



All languages supported by the ITS are loaded at ITS setup and stored in the registry.



You should ensure that the languages you need are installed in the registry. If they are not, the ITS returns an empty page to the Web browser.

For a list of supported languages and other NLS information, see:

[NLS Registry Information \[Page 128\]](#)

For further information about configuration options, see:

[Default Configuration \[Page 131\]](#)

[Custom Configuration \[Page 132\]](#)

For information about known Web browser restrictions, see:

[Web Browser Restrictions \[Ext.\]](#)

NLS Registry Information

NLS Registry Information

The languages supported by the ITS are stored in the registry, which contains the following information for each language:

- 2-character language ID
- 1-character language ID
- Language name
- Win32 code page
- SAP code page
- ISO character set (Unicode)

Central storage of this information eliminates the need to map languages explicitly to code pages. The values stored in the registry apply to all services – there are no service-specific settings.

2-Character Language IDs

When an Internet user logs on to start an ITS service, the `login.html` retrieves the possible logon languages from the registry. The user then sees a restricted list of those languages specified in the `~language` parameter of the global service file or the service-specific service file. If no languages are specified in these files, all the languages from the registry are available for selection. This means that the `login.html` does not need a hardcoded static list of languages.

As of ITS 2.2, the ITS uses only 2-character language identifiers. This means:

- Only one `login.html` page is needed for all R/3 releases
- The `~language` parameter in the global service file or the service-specific service files contains a 2-character language identifier
- When a service is started, language identifiers in URLs consist of 2 characters
- MIME files have 2-character language IDs for R/3 Release 4.x and 1-character language IDs for R/3 Release 3.x
- The ITS determines the R/3 release at logon time and, if necessary, maps the 2-character language ID to the corresponding 1-character language
- ITS users no longer have to be aware of the underlying R/3 System

Windows Code Pages and Web Character Sets

Unfortunately, there is a difference between the code pages used by Windows NT and the character sets supported by most Web browsers. For example, if you are running your Web browser on an Apple Macintosh or a Unix platform, no Win32 code page 932 is defined in your system, but there is an equivalent code page or ISO character set – in this case x-sjis.

To handle the differences caused by the use of different system platforms, the Web uses ISO character set names instead of code page numbers. For most common code pages available on Windows NT, there is an equivalent ISO character set; that is, the Windows NT code page is based on the ISO character set definition.

Windows Code Pages and SAP Code Pages

The Windows NT code pages used by the ITS do not necessarily match the code pages used by SAP in the R/3 System:

- The ITS runs only on Windows NT 4.0, so it can only handle Windows NT code pages.
- The R/3 System to which the ITS connects can run on any available R/3 platform and uses its own code pages to handle national language support.

Summary of NLS Registry Information

The following table contains a list of supported languages, together with 1-character and 2-character language IDs, and code page mappings. The ITS installation procedure loads all these languages to the registry, but administrators can add entries to the registry using ITS Administration.

NLS Registry Information

2-char Lang ID	1-char Lang ID	Language	Win32 Code Page	SAP Code Page	ISO character set
ar	a	Arabic	1256	8704	Windows 1256
he	b	Hebrew	1255	1804	Windows 1255
cs	c	Czech	1250	1404	Windows 1250
de	d	German	1252	1100	US ASCII
en	e	English	1252	1100	US ASCII
fr	f	French	1252	1100	US ASCII
el	g	Greek	1253	1704	Windows 1253
hu	h	Hungarian	1250	1404	Windows 1250
it	i	Italian	1252	1100	US ASCII
ja	j	Japanese	932	8000	x-sjis
da	k	Danish	1252	1100	US ASCII
pl	l	Polish	1250	1404	Windows 1250
zf	m	Traditional Chinese	950	8300	big5
nl	n	Dutch	1252	1100	US ASCII
no	o	Norwegian	1252	1100	US ASCII
pt	p	Portuguese	1252	1100	US ASCII
sk	q	Slovakian	1250	1404	Windows 1250
ru	r	Russian	1251	1504	Windows 1251
es	s	Spanish	1252	1100	US ASCII
tr	t	Turkish	1254	1614	Windows 1254

NLS Registry Information

fi	u	Finnish	1252	1100	US ASCII
sv	v	Swedish	1252	1100	US ASCII
bg	w	Bulgarian	1251	1504	Windows 1251
zh	1	Simplified Chinese	936	8400	GB_2312_80
th	2	Thai	874	8604	x-TIS-620
ko	3	Korean	949	8500	ks_c_5601-1987
ro	4	Romanian	1250	1404	Windows 1250
sl	5	Slovenian	1250	1404	Windows 1250
hr	6	Croatian	1250	1404	Windows 1250
zz	z	Language-independent	1252	1100	Z

If you change any of these values in the Windows NT Registry, you must restart the ITS.



The Win32 code page for the entry 'zz' is used as a default by language-independent templates.

NLS Default Configuration

The ITS is configured to run in a one-code-page, single-byte environment. This configuration requires no changes and is sufficient for most installations in the western hemisphere.

If you have an R/3 System that uses a multi-byte character set (MBCS), or if you want to use an MBCS for your templates (for example, to offer an online catalogue with Japanese help texts), you may need to modify the configuration parameters on your machine, as described in [NLS Custom Configuration \[Page 132\]](#).

NLS Custom Configuration

NLS Custom Configuration

In the Windows NT registry, there are four parameters that you can modify:

Windows NT Registry Code Page Parameters

Parameter	Default Value	Description
<code>CodePageGlobal</code>	0	Win32 code page used to load the <code>global.srvc</code> file.
<code>CodePageHttp</code>	0	Win32 code page used to load the <code>http.header</code> file. If not specified in the registry, this parameter defaults to <code>CodePageGlobal</code> .
<code>CodePageSystem</code>	0	Win32 code page used to load system templates. If not specified in the registry, this parameter defaults to <code>CodePageGlobal</code> .
<code>CodePageService</code>	0	Win32 code page used to load all other.srvc files. If not specified in the registry, this parameter defaults to <code>CodePageGlobal</code> .

The value 0 specifies the system's default ANSI code page.

It is not necessary to modify these entries unless you have special requirements. If, for example, you want to display system messages in Japanese (which uses the ShiftJIS character set), you require the registry key "`CodePageSystem=932`", because 932 is the Windows NT code page that implements ShiftJIS.

For further information, see:

[NLS Without Language Resource Files \[Page 133\]](#)

[NLS With Language Resource Files \[Page 134\]](#)

[NLS for Japanese Characters \[Page 135\]](#)

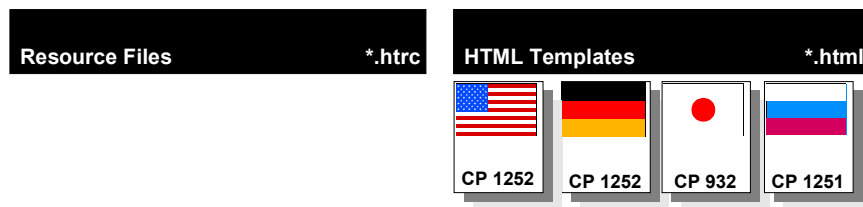
NLS Without Language Resource Files

If you are not using language resource files (.htrc files) to handle different languages, you must provide a complete set of templates for each supported language and code page.



In this example, there is one set of HTML templates each for the languages English, German, Japanese and Russian. Each language has a specific code page in which the templates are written (for example, 932 for Japanese Kanjis). Since the code page cannot be determined automatically, you get this information from the registry.

The following graphic illustrates the example:



NLS With Language Resource Files

NLS With Language Resource Files

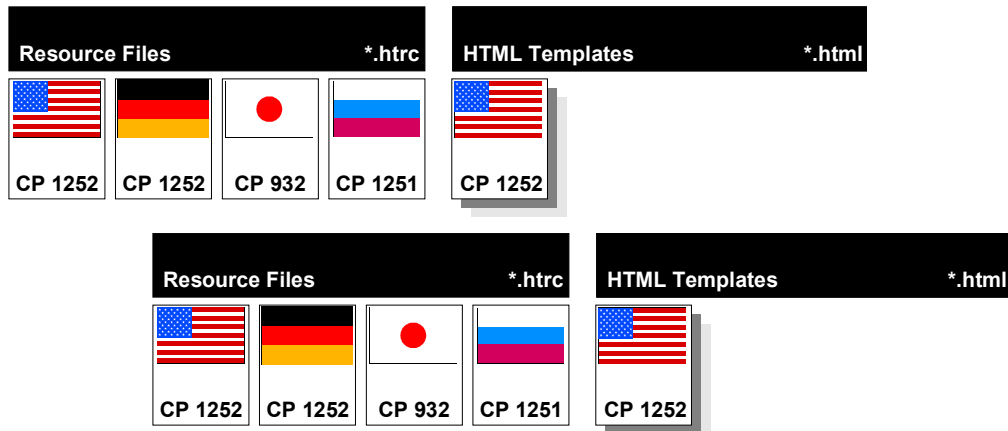
If you are using language resource files (.htrc files) to handle different languages, you only need one set of HTML templates. All language-specific texts and data are stored in the resource files for each language.

The advantage of language resource files is that if the HTML templates do not contain language-specific data, you can use code page 1252 (US ASCII) to store the templates. These templates may contain only HTML tags and HTML^{Business} statements.

In addition to the code pages used for the language resource files, you must therefore define the code page to be used for the language-independent HTML templates. This is usually code page 1252 or your system's default ASCII code page (0). If this information is not provided, the system's default ASCII code page is assumed.



In this example, one set of HTML templates is sufficient for the languages English, German, Japanese and Russian, as shown in the following graphic:



NLS for Japanese Characters

In the unlikely case that you are using language resource files, but some templates still contain data in a particular language (for example, a company's name and address in Japanese), you may have to write the template files with a code page other than US ASCII. In this case, you can provide the ITS with the required information simply by specifying the `~codepage` parameter.



In this example, the Japanese text is written using the Shift-JIS code page (932), so you must set the `~codepage` parameter to the value 932.

The following graphic illustrates the example:

