Installing WGate on Solaris

Release 620

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Icons in Body Text

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see *Help on Help → General Information Classes and Information Classes for Business Information Warehouse* on the first page of the any version of *SAP Library*.

Typographic Conventions

Type Style	Description
Example text	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.
	Cross-references to other documentation.
Example text	Emphasized words or phrases in body text, graphic titles, and table titles.
EXAMPLE TEXT	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example text	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.

Installing WGate on Solaris

Purpose

This document describes how to install WGate on Solaris.

Overview

For the Solaris environment, WGate is built as a Netscape (iPlanet, Sun ONE) loadable module.

In the following document if we speak of "Netscape" we also mean "iPlanet" or "Sun ONE" webserver.

At present, we support

   Sun ONE Webserver version 6.0, 6.1

The installation of WGate on Solaris involves the following steps. These

steps are performed automatically by the install program.The install programs

asks the user asked for Netscape pathnames, AGate server data, trace file

names and so on. No files are copied or altered until final approval is given.

1. In the Netscape configuration directory,

   - the configuration file obj.conf is edited to include lines for the

     loadable WGate module.

   - up from version 6.x the configuration file magnus.conf is edited to

     include lines for the loadable WGate module

   - a new configuration file called wgate.conf to be used by the

     WGate module.

2. The /etc/services file is edited to add entries for AGate ports.

(3. In former installations the basis library (libsapbasis.so) is copied to /usr/lib.

   In this version there is no need for this library (nswgate.so is stand-alone) and

   therefore there no longer a copy of this basis library.)

4. The "sar" files (system.sar, webgui.sar, its_adm.sar etc.) are unpacked in the

    Netscape server document root directory.

Installing WGate

Procedure

Performing the Installation

Please perform the following steps as root.

1. We presume you have a valid version of the Netscape Webserver running on your system.

   Stop the Webserver if it is running.

2. Create temporary install directory.

   mkdir /tmp/inst

   cd /tmp/inst

3. Copy itssun.tar (or some substitute with the ITS version included) to install directory.

   cp itssun.tar /tmp/inst

4. Unpack the itssun.tar package

   tar xvf itssun.tar

5. Execute the install program

   ./install

      This program request information about the Netscape Webserver pathnames,

      and the AGate information. We are trying to recommended defaults, but since the

      path change per Webserverversion, take when typing the path or file information.

      (please type a full path when we ask for a "path" or "directory" and type a full path

      with filename if we ask for a filename)

Checking the Installation

1. After completion, check the obj.conf (and eventually the magnus.conf) and wgate.conf files.

   If required, you can edit these files further; see WGATE CONFIGURATION NOTES section later in this document.

2. Next, start Netscape Webserver.

   - per startup script where changes are automatically applied

   - per Webserver admin, where you have to apply the changes

     (mostly by a button in the right corner of the HTML admin User interface)

3. Look for errors in logs/errors.

4. Use a Web browser to browse the WGate URL:

   `http://<host>:<port>/scripts/wgate/webgui/!`

   You should see a SAP logon screen.

5. If there are problems, check `logs/errors` and `logs/access` again. WGate can also send selectable levels of trace data to its own trace file, but this is not useful until you see the first logon screen.

Sample Installation Dialog

(I will explain this with a IPlanet 6.0, Netscape and SunOne paths are slightly
 different, and paths are dependend what you chose by installing the Webserver)

Assumptions

- the file itssun.tar exists in **/tmp**

- hostname is **us4007**

- the webserver on this machine is called **https-us4007** and is installed in
  /its/iplanet/servers:

Dialog

```
*********************************************************************

us4007# su  -

us4007# cd /tmp

us4007# mkdir inst

us4007# cp itssun.tar inst

us4007# cd inst

us4007# tar xvf itssun.tar


x nswgate.so, 1256652 bytes, 2455 tape blocks

x install, 108236 bytes, 212 tape blocks

x SAPCAR, 5384008 bytes, 10516 tape blocks

x its_adm.sar, 383025 bytes, 749 tape blocks

x system.sar, 354657 bytes, 693 tape blocks

x webgui.sar, 3276528 bytes, 6400 tape blocks


us4007# ./install

*********************************************************************

***

*** This utility will install WGate for iPlanet (Netscape) Web Server 4.X or 6.X on
*** Solaris 8. You can download the Web Server from:

***             http://www.iplanet.com/webserver

***

*** If you have newer version of Netscape installed, please consult the follwing
*** SAP web page to find out if the version installed on

*** your system is supported via downloadable updates:

***             http://www.sap.com/its

***

*** IMPORTANT: You should manually stop Netscape Web Server before *** proceeding.

***

***
```

```
*******************************************************************
Do you want to proceed [y/n]? y


Please tell us what Netscape/IPlanet Server you have
We need this info to detect what changes have to be made to your
configuration.
For version 4.X we need to change obj.conf.
For version 6.X we need to change obj.conf AND magnus.conf.


Is your version of Netscape/Iplanet 6.0 or higher  [y/n]? y


Please enter complete path and name of "obj" configuration file

[/usr/netscape/server4/<...>/config/obj.conf]:
/its/iplanet/servers/https-us4007/config/obj.conf


Please enter complete path and name of "magnus" configuration file

[/usr/netscape/server4/<...>/config/magnus.conf]:
/its/iplanet/servers/https-us4007/config/magnus.conf


Please specify root directory of Web Server

[/usr/netscape/server4]: /its/iplanet/servers


Please specify root directory for web documents on the selected
server

[/its/iplanet/servers/docs]: /its/iplanet/servers/docs


Install will add ITS loadable module to your Netscape configuration.
Please specify a directory where this module should be put.
Normally this is "plugins/nsapi"  directory under Netscape tree.


Please enter path of directory for Netscape loadable modules

[/its/iplanet/servers/plugins/nsapi]:
/its/iplanet/servers/plugins/nsapi


Please enter the name of ITS instance to be installed: 620


Please enter host name or IP address of AGate server: 10.31.168.103


Please enter port number of AGate server: 5304


Please enter mapping manager port number on this AGate server: 5314
```

AGate server can optionally be configured to run multiple AGate
processes for increased scalability and fault-tolerance. In multi-
process configuration

WGate will use Mapping Manager to assign one of AGate processes to
serve

the incoming request. In single-process configuration WGate will
bypass Mapping Manager and directly contact master AGate port of the
singular Agate server process.

Please specify if target AGate host is multi-process or single-
process.

Is AGate server configured as multi-process [y/n, default=no]? n

Please choose type of connection between WGate and AGate:

1.   Native sockets

2.   NI [recommended default]

3.   NISNC

Please choose type of connection between WGate and AGate [1-3, default=2]: 2

Please enter the name of trace file for instance "620": /tmp/wgate_620_99.trc

Please enter name of user to own WGate executable files [root]: root

Please enter name of group to own WGate executable files [other]: other

Do you want to install package webgui.sar [y/n, default=yes]? y

Do you want to install package its_adm.sar [y/n, default=no]? n

Please enter name of user to own MIME files [root]: root

Please enter name of group to own MIME files [other]: other

Please specify protection to be applied to MIME files against group "other"

and against other users.

"R" = read only, "RW" = read and write, "none" = no access

Please specify protection to apply against group "other" [R]: R

```
Please specify protection to apply against all other users [R]: R
****************************************************************
*                                                              *
*   Install finished collecting information about your system  *
*   and is about to proceed to actual WGate installation.      *
*                                                              *
*   Please review and verify the following data:              *
*                                                              *
****************************************************************
Netscape server configuration file:
/its/iplanet/servers/https-us4007/config/obj.conf
  Web document directory (root):      /its/iplanet/servers/docs
  Directory for loadable modules:
/its/iplanet/servers/plugins/nsapi
  WGate trace file:                   /tmp/wgate_620_99.trc
  ITS instance name:                  620
  AGate host name:                    10.31.168.103 [not multiprocess]
  AGate port number:                  5304
  Mapping manager port number:        5314
  Connection type:                    NI
  Owner of WGate system files:        root, other [0, 1]
  Owner of MIME files:                root, other [0, 1]
  Protection of MIME files:           rw-r--r--
  Packages to install:                webgui.sar  system.sar


Do you want to proceed [y/n]? y
Adding service definition to /etc/services ...
Installing "nswgate.so" to "/its/iplanet/servers/plugins/nsapi" ...
Updating /its/iplanet/servers/https-us4007/config/wgate.conf ...
Copying /its/iplanet/servers/https-us4007/config/wgate.conf to
/its/iplanet/servers/https-us4007/config/wgate.conf.bak
Updating /its/iplanet/servers/https-us4007/config/magnus.conf ...
********************************************************************
* Adding the following 3 lines to magnus.conf for this Web Server.
* Init fn="load-modules" funcs="sap-wgate-init,
* sap-wgate-init-child,sap-wgate-nametrans,sap-wgate-service"
* shlib="/its/iplanet/servers/plugins/nsapi/nswgate.so"
* Init fn="sap-wgate-init"
* config="/its/iplanet/servers/https-us4007/config/wgate.conf"
* Init fn="sap-wgate-init-child" LateInit="yes"
*
********************************************************************
```

```
* Adding the following 2 lines to obj.conf for this Web Server.

* NameTrans fn="sap-wgate-nametrans"

* safelocation="/its/iplanet/servers/docs/nofile.html"

* Service method="(GET|POST)" fn="sap-wgate-service"

*

*

* If addition fails, add the lines manually. See "SAP@Web

* Installation guide ",

* chapter WGate Configuration, section WGate Configuration File: Web
* Server Aspects

* for more information.

*

**********************************************************************

Press Enter to continue :

Unpacking package "webgui.sar" (this may take awhile) ...

Executing /tmp/inst/SAPCAR -lower -xf from /tmp/inst/webgui.sar to
/tmp/its-install-eUaOe2 on webdocs

SAPCAR: processing archive /tmp/inst/webgui.sar

SAPCAR: 5185 file(s) extracted

Unpacking package "system.sar" (this may take awhile) ...

Executing /tmp/inst/SAPCAR -lower -xf from /tmp/inst/system.sar to
/tmp/its-install-eUaOe2 on webdocs

SAPCAR: processing archive /tmp/inst/system.sar

SAPCAR: 425 file(s) extracted


Copying MIME files  ..........................................
................................................................
.........................................................
Deleting temporary files (this may take awhile) ...

**********************************************
*                                            *
*   Installation of ITS WGate is successfully *
*   completed.                                *
*                                            *
*   You can now restart your Netscape server. *
*                                            *
*   Please remember that if you upgrade your  *
*   Netscape server, you will need to re-run  *
*   this installation.                        *
*                                            *
*   Also, before upgrading Netscape server    *
```

```
*    please consult the following SAP web page   *
*                                                *
*        http://www.sap.com/its                  *
*                                                *
*  to find out the list of Netscape versions     *
*  supported by ITS and information on how        *
*  to download updates of ITS for recent          *
*  versions of Netscape server.                    *
*                                                *
**********************************************
```

us4007:root#

The resulting wgate.conf looks like this:

us4007:root# more /its/iplanet/servers/https-us4007/config/wgate.conf

<url _default_/scripts/wgate>

  instance   620

</url>

<instance 620>

  <agate>

    Host   10.31.168.103

    PortAGate   sapavw00_620

    PortMManager   sapavwmm_620

    Type   1

    MultiProcess   no

  </agate>

  TraceFile   /tmp/wgate_620_99.trc

  TraceLevel   1

</instance>

WGate Configuration Notes

Layout of wgate.conf File

The file wgate.conf describes the configuration of the WGate server and comprises several XML-like sections. At the root level of file's structure there are three types of sections:

    <url>,

    <instance> and

    <global>.

There can be any number of <url> and <instance> sections (but at least one of each) and exactly one <global> section.

<url> sections describe URLs that the WGate server is to listen on. Each <instance> section decribes a virtual ITS instance. The single <global> section describes parameters that apply to the whole WGate server installation.

Every <instance> section has one or more nested <agate> subsections, one for each AGgate server host.

<url> Sections

Each <url> section describes a URL that the WGate server should listen on and maps this URL to a particular ITS instance of ITS. There is one <url> section for each WGate-wired URL, and there can me multiple <url> sections in the wgate.conf file.

Here are some examples of valid **`url`** sections:

```
<url www.xyz.com:80/scripts/wgate.dll>
 instance p40 # mandatory parameter
 available yes # optional directive
</url>
<url www.abc.com:2080/wgate>
 instance p40
 available yes
</url>
<url *.sales.xyz.com/sap/wgatesec/>
 instance p50
 available yes
 RequireSSL
</url>
<url _default_/scripts/wgate>
 instance p30
</url>
```

The main parameter in this section is instance which maps this URL entry to a particular ITS instance. If no server port is specified (as in the above example), WGgate accepts a request

on any port provided the rest of the requested URL matches the remainder of URL path components specified in the file. An asterisk ("*") placeholder indicates any domain name component.

Thus, in the third example above, the server would accept URLs such as:

https://www1.sales.xyz.com:8447/sap/wgatesec/...

https://www2.sales.xyz.com:447/sap/wgatesec/...

https://www.sales.xyz.com/sap/wgatesec/...

In the last example, the generic placeholder **_default_** matches any host name provided no more specific matching record can be found. In this case, the more specific matching record would take precedence.

Please note that **www.abc.com:2080/wgate** is identical to **www.abc.com:2080/wgate/**, so the terminating slash does not really matter.

If the value of available is **no** (the default is **yes**), the WGate server rejects any attempt to connect through the URL. This can be used to temporarily take URL service down without commenting it out in the configuration file.

If RequireSSL directive is present, connection through this URL can be made only via secure (SSL) transport, and any insecure connection attempt (such as via regular clear-text HTTP) will be rejected.

<instance> Sections

An instance is a set of AGate servers serving one or more WGate URLs.

Here is an example of a valid **<instance>** section:

```
<instance p40>
   available yes
   tracefile /var/log/wgate-p40.trc
   tracelevel 1
   <agate>
      Host agate1.abc.com
      PortAGate sapavw00_p40
      PortMManager sapavwmm_p40
         Type 1
   SncNameAGate "p:CN=P40_Agate, O=SAP Technology, Inc., C=US"
   SncNameWgate "p:CN=P40_Wgate, O=SAP Technology, Inc., C=US"
   available yes
   multiprocess yes
   </agate>
</instance> # p40
```

Parameters and their values are the same as described in the current documentation, except for additional available directive (default value is "yes") describing if a particular instance of agate should be made available. If "available" is set to "no" in <agate> descriptor, this agate server is not included in the server set for the instance. If "available no" is set for an instance itself, any requests to this instance will be rejected. Another additional parameter called multiprocess supersedes former maxAGates to specify if this particular agate server runs just

one agate process ("no") or if mapping manager should be contacted to select one of agate processes when accessing agate server host ("yes"). Multiprocess is a mandatory parameter and is not defaulted, it must be specified explicitly for every host.

There can be either one or multiple agate servers per instance, in the latter case there are multiple <agate> subsections within <instance> descriptor. Tracefile specifies the location of tracing file, tracelevel - level of tracing details. Please note that SncNameWgate, if specified, should be the same for all instances.

<global> Section

The **<global>** section contains parameters that apply to the whole WGate installation.

Here is an example of a valid **<global>** section:

```
<global>
    clientCertAlias CLIENT_CERT
    setenv enironment-variable-1 value-1
    setenv enironment-variable-2 "value 2"
    EnableStatusMonitor yes
</global>
```

setenv directive allows to specify variables to be set in the process environment of wgate server process. These variables can be used to pass certain control settings to security plugins. There can be any number of setenv directives in the section, each specifying variable name and value. **clientCertAlias** specifies name of CGI variable used on a particular web server for client certificates. Optional directive **EnableStatusMonitor** enables WGate status monitor facility. This is not a supported feature and is not generally recommended in production system, but can be useful during system tuning or troubleshooting. Status monitor is available via URI subpath "wgate-status" under any WGate URL, such as for example "http://www.xyz.com/scripts/wgate/wgate-status".

Other Features

All keywords in configuration file are not case-sensitive. Everything past hash sign ("#") is considered to be a comment and is ignored by wgate. Values that contain spaces should be surrounded by quotes.

Example

Here is an example of a valid WGate configuration file:

```
# sample wgate.conf - wgate server configuration file
<url www.xyz.com:80/scripts/wgate.dll>
    instance p40
</url>
<url www.abc.com:2080/p40>
    instance p40
    available no # currently down
</url>
<url *.sales.xyz.com/sap/p50sec/>
    instance p50
```

```
      available yes

      RequireSSL

   </url>

   <instance p40>

      available yes

      tracefile /var/log/wgate-p40.trc

      tracelevel 1

      <agate>

         Host agate-1.abc.com

         PortAGate sapavw00_p40

         PortMManager sapavwmm_p40

         Type 1

         available yes

         multiprocess yes

      </agate>

   </instance> # p40

   <instance p50>

      tracefile /var/log/wgate-p50.trc

      tracelevel 0

      <agate>

         Host agate-1.abc.com

         PortAGate sapavw00_p50

         PortMManager sapavwmm_p50

         Type 2

         SncNameAGate "p:CN=P50_Agate, O=SAP Technology, Inc., C=US"

         SncNameWgate "p:CN=P50_Wgate, O=SAP Technology, Inc., C=US"

         multiprocess yes

      </agate>

   </instance> # p50

   <global>

      clientCertAlias CLIENT_CERT

      setenv enironment-variable-1 value-1

      setenv enironment-variable-2 "value 2"

   </global>
```

Web Server-Specific Notes

WGate modules are available for Netscape version 4.1 or later on Solaris. The configuration of the Netscape Webserver is similar in Solaris to that on NT except for minor differences in path names.

Error Messages and Troubleshooting

If file **wgate.conf** is not in a proper shape, e.g. has syntax or logical errors, WGate will produce diagnostic message and refuse to start. WGate messages can be found in WGate tracing files, in Web server logs, in NT event logs (on Windows NT/2000), or they can be printed to Netscape standard output if Netscape is started as a console application. If you have problems with WGate, please check for these messages first. Please consult the ITS 610C1 documentation for more information on the layout and usage of the WGate configuration file.