GIS Deployment Guide

Genesys Integration Server Options

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Contents

Genesys Integration Server Options

You must configure the following GIS Application object configuration options before starting GIS:

- On the `Options` tab, specify the location or address of the FlexLM license file, see Configuring the License Section of the Option Tab (for GIS:SOAP or GIS:GSAP).

Further, the GIS `Application` object can be customized, with options available for the Session service, Statistics service, Core service, Open Media Interaction service, and Agent Interaction service, as described in the following sections:

- ail-services Section
- core-services Section
- license Section
- log Section
- session-services Section
- stat-services Section

To configure GSAP options use the following information as a guide:

- [GSAP.General] Section
- [GSAP.KeepAlive] Section
- [GSAP.LoadBalancing] Section

For additional details about configuring GSAP.LoadBalancing options, see GSAP Load Balancing Configuration.

ail-services Section

agent-wait-status-stable

- Default Value: `100`
- Valid Values: Integer values from `0` to `1000`.
- Changes Take Effect: After restart.
- **Description:** Time, in milliseconds, to wait for the agent to complete the login action. If set to `0`, do not wait at all.

cache-lease-time

- Default Value: `30`
- Valid Values: Integer values from `0-60`.
- Changes Take Effect: After restart.
- **Description:** Time (in minutes) that the objects `DN`, `Agent`, and `Place` remain in the internal cache. If set to `0`, the objects are not cached.

interaction-voice-create-new-timetolive

- Default Value: `30`
- Valid Values: Integer values from `0` to `60`.
- Changes Take Effect: After restart.
- **Description:** Maximum time (in minutes) to maintain an interaction in the status `NEW`, following a call to the `createInteraction()` method. If this time period expires, then the interaction is removed.

timeout

- Default Value: `30`
- Valid Values: Any positive integer.
- Changes Take Effect: After restart.
- **Description:** Specifies the timeout value, in seconds, of requests sent to back-end servers. For example, loading `cfg` data.

receive-self-user-event

- Default Value: `false`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- **Description:** If set to `true`, GIS will send to its clients the same UserEvent message that it sent to the TServer.

core-services Section

events-adapter-soap-commons-sender-enabled

- Default Value: `true`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- **Description:** Enables the commons sender HTTP adapter, using SOAP (Simple Object Access Protocol) over HTTP 1.0. This is the default adapter.

events-adapter-soap-commons-sender-http11-mode

- Default Value: `true`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- **Description:** Enables HTTP 1.1 mode for the commons sender HTTP adapter.

events-adapter-soap-commons-sender-max-connections-host

- Default Value: `50`
- Valid Values: Integer values from `1` to `50`.
- Changes Take Effect: Immediately.
- **Description:** Sets the maximum of connections, per host, that the commons sender HTTP adapter uses.

events-adapter-soap-commons-sender-max-total-connections

- Default Value: `500`
- Valid Values: Integer values from `5` to `500`.
- Changes Take Effect: Immediately.
- **Description:** Sets the maximum of connections that the commons sender HTTP adapter uses.

events-adapter-soap-invokeonewaymode

- Default Value: `false`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- **Description:**
  - If `true`, calls the `notifyEvents()` method on the subscriber in one-way mode.
  - If `false`, calls this method in `requestresponse` mode. Applies only in push mode.

events-adapter-soap-notification-failure-nbretries

- Default Value: 3
- Valid Values: Integer values from `0` to `5`.
- Changes Take Effect: Immediately.
- **Description:** Number of retries upon notification failure. If this threshold is exceeded, the subscriber is removed. Applies only in push mode.

events-adapter-soap-notification-polling

- Default Value: `true`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- **Description:** If `true`, calls the `notifyEvents()` method on each subscriber that has no events, to verify that the subscriber is still present.
  The call is repeated at intervals specified by the `events-subscriber-timetolive` polling option's value. If a call fails, the subscriber is removed. Applies only in push mode.

events-buffered-period

- Default Value: `100`
- Valid Values: Integer values from `0` to `1000`.
- Changes Take Effect: Immediately.
- **Description:** Period, in milliseconds, by which events are buffered before they are sent to subscribers (or subscribers retrieve them).
  If this option is set to `0`, the events are not buffered.

events-buffered-size

- Default Value: 300
- Valid Values: Integer values from 0 to 500.
- Changes Take Effect: Immediately.
- **Description:** Maximum number of events buffered before they are sent to subscribers (or subscribers retrieve them). If this option is set to 0, events are sent immediately. If the buffer overflows, the oldest events are removed.

events-keep-alive-time

- Default Value: 5
- Valid Values: Integer values from 1 to 60 .
- Changes Take Effect: After restart.
- **Description:** Number of minutes to keep threads alive while they are waiting in the notification pool.

events-maximum-pool-size

- Default Value: 100
- Valid Values: Integer values from 20 to 100.
- Changes Take Effect: After restart.
- **Description:** Maximum number of threads in the notification pool.

events-minimum-pool-size

- Default Value: 10
- Valid Values: Integer values from 0 to 20.
- Changes Take Effect: After restart.
- **Description:** Minimum number of threads in the notification pool.

events-subscriber-timetolive-polling

- Default Value: 10
- Valid Values: Integer values from 5 to 60.

- Changes Take Effect: Immediately.
- **Description:** Time limit, in minutes, within which the subscriber must call the `getEvents()` method. If there is no call to this method, the subscriber is removed. Applies in both push and polling modes.

events-thread-priority

- Default Value: 7
- Valid Values: Integer values from `1` to `10`.
- Changes Take Effect: After restart.
- **Description:** Notification threads' priority (where 1 represents minimum, 5 represents normal, and 10 represents maximum). Applies only in notification mode.

ha-died-recovering

- Default Value: `true`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- **Description:** Enables automatic recovery when a dead node is detected in the cluster. If `false`, the cluster will wait until the next client request before recovering. Applicable only to cluster based HA, in events-push mode.

session-cache-enabled

- Default Value: `false`
- Valid Values: `true, false`
- Changes Take Effect: Immediately.
- In GIS, cache lease time of objects is activated by default (30 minutes in the CME options tab). When working with multimedia, the cache lease time option automatically logs out the user (and removes any event subscription) on inactivity when the timeout is reached, even if the user session timeout has not expired.

To avoid an inappropriate logout in multimedia server(s), setting the session-cache-enabled option to `true` links the lease time to the user session. As long as the user session is alive, lease time will not be involved. If the user session is no longer found, the lease time is evaluated.

> **Important**

> Lease time behavior only applies with multimedia, not voice. Therefore, if the user is only doing voice activity, setting this option will not have any affect on GIS behavior. If the user is doing multimedia activity, set this option to `true`.
>
> A negative lease time value never removes objects from cache. A null value forces GIS to refresh objects each time. Objects are not kept in cache and activates the logout mechanism described.

license Section

gis_interactionservice-block-size

- Default Value: 1
- Valid Values: Any positive value.
- **Description:** Specifies the number of interaction corporate licenses for connections to FlexLM server. The valid value must not exceed the number of licenses that your company has purchased.

gis_statservice-block-size

- Default Value: 1
- Valid Values: Any positive value.
- **Description:** Specifies the number of statistic corporate licenses for connections to FlexLM server. The valid value must not exceed the number of licenses that your company has purchased.

gis_configurationservice-block-size

- Default Value: 1
- Valid Values: Any positive value.
- **Description:** Specifies the number of configuration service corporate licenses for connections to FlexLM server. The valid value must not exceed the number of licenses that your company has purchased.

license-file

- Default Value: `license.dat`
- Valid Values: *port@hostname1*, *port@hostname2*

- **Description:** Addresses of FlexLM license servers.

log Section

> **Important**
>
> For GIS:SOAP deployments, the options you specify in the GIS `Application` object control logs for both GIS and its related Services (that is, Agent Interaction Services and Open Media Interaction Services) in the same output. The log options set in the connected Services `Application` objects do not apply.
> For GIS:GSAP deployments, the logs for Agent Interaction Services and Open Media Interaction Services are controlled by the options set in the related Services `Application` object.

all

- Default Value: `network,../logs/all.log,stdout`
- Valid Values: `network, ../logs/all.log, all.log, stdout`
- **Description:** Sets output options for the `all` log level. The values are each optional, and can be combined:
- `network` specifies that these logs will be output to MessageServer if GIS is connected to it.
- `../logs/all.log` specifies an output file for this log level, for a GIS:SOAP connector.
- `stdout` specifies that this log level will be output to a console if the console is available.

> **Warning**
>
> If you have deployed a GIS:SOAP connector as a Web Module, replace the default relative path to the log file (../logs/all.log) with a fully qualified path/file name, of the form: <logpath>/<logfilename>.log

> **Important**
>
> This option affects only SOAP deployments of GIS.

Buffering

- Default Value: `true`
- Valid Values: `true, false`
- Changes Take Effect: immediately
- **Description:** If set to `true`, enables operating system file buffering. (This option only applies to `stderr` and `stdout` output.)
  File buffering improves output performance, but can result in the loss of buffered logs in the case of a server crash.

> **Important**
> This option affects only SOAP deployments of GIS.

debug

- Default Value: [none]
- Valid Values: `network, ../logs/all.log, all.log, stdout`
- **Description:** Sets output options for the debug log level. The values are each optional, and can be combined:
  - `network` specifies that these logs will be output to MessageServer if GIS is connected to it.
  - `../logs/all.log` specifies an output file for this log level, for a GIS:SOAP connector.
  - `stdout` specifies that this log level will be output to a console if the console is available.

> **Warning**
> If you have deployed a GIS:SOAP connector as a Web Module, replace the default relative path to the log file (../logs/all.log) with a fully qualified path/file name, of the form: <logpath>/<logfilename>.log

> **Important**
> This option affects only SOAP deployments of GIS.

expire

- Default Value: `false`
- Valid Values:
  - `false`: No expiration; all generated segments are stored.
  - <*number*>, or <*number*> `file`: Sets the maximum number of log files to store. Specify a number from 1-100.
  - <*number*> day: Sets the maximum number of days before log files are deleted. Specify a number from 1-100.
- Changes Take Effect: immediately.
- **Description:** Determines whether log files will be deleted, and if so, the deletion interval (set as a maximum number of log files or retention days).

> **Important**
> This option affects only SOAP deployments of GIS.

lb-console

- Default Value: `info`
- Valid Values: `off, debug, info, warn, fatal`
- **Description:** Specifies level and size of load-balancing traces that appear on the internal console. If this option is not specified, then load-balancing traces are not logged to the MessageServer.

> **Important**
> This option affects only GSAP deployments of GIS.

lb-file

- Default Value: `info, gis-gsap-lb.log, 20, 3`
- Valid Values: <*level*>,<*file name*>, <*max file size*>, <*max file number*>
- **Description:** Used to write traces of the load-balancing engine to the file. If this option is not specified, there is no load-balancing logging to the file.
- <*level*>: `false, debug, info, warn, error, fatal`

- <*file name*>: correct path to a file name
- <*max file size*>: maximum file size, in MB
- <*max file number*>: number of files for the rolling logs

> **Important**
> This option affects only GSAP deployments of GIS.

lb-msgsrv

- Default Value: `off`
- Valid Values: `off, debug, info, warn, error, fatal`
- **Description:** Specifies level and size of the load-balancing engine for the MessageServer centralized log. If this option is not specified, load-balancing logging to MessageServer does not occur.

> **Important**
> This option affects only GSAP deployments of GIS.

MessageFile

- Default Value: [As specified by a particular application.]
- Valid Values: <string> `.lms` (message file name)
- Changes Take Effect: Immediately, in the case when an application cannot find its
  - `.lms`

  file at startup.
- **Description:** Specifies the file name for application-specific log events. The name should be valid for the operating system on which the application is running. The option value can also contain the absolute path to the application-specific
  - `.lms`

. Otherwise, an application looks for the file in its working directory.

> **Warning**
> An application that cannot find its
>
> - `.lms`
>
> file at startup cannot generate application-specific log events or send them to Message Server.

> **Important**
> This option affects only SOAP deployments of GIS.

prop-console

- Default Value: `info`
- Valid Values: `off, debug, info, warn, fatal`
- **Description:** Specifies level and size of this server's protocol traces for the internal console. If this option is not specified, load-balancing logging to console does not occur.

> **Important**
> This option affects only GSAP deployments of GIS.

prop-file

- Default Value: `info, gis-gsap.log, 20, 3`
- Valid Values: <level> , <file name> , <max file size> , <max file number>
- **Description:** Used to write traces from this server to the file. If this option is not specified, this server does not log to the file.
- <level>
  false, debug, info, warn, error, fatal
- <file name>
  correct path to a file name
- <max file size>
  maximum file size, in MB
- <max file number>

number of files for the rolling logs

> **Important**
> This option affects only GSAP deployments of GIS.

prop-msgsrv

- Default Value: `off`
- Valid Values: `off, debug, info, warn, fatal`
- **Description:** Specifies level and size of this server's logging traces for the MessageServer centralized log. If this option is not specified, this server does not log to MessageServer.

> **Important**
> This option affects only GSAP deployments of GIS.

segment

- Default Value: `false`
- Valid Values:
  - `false`: No segmentation allowed.
  - '**<number>**' or '**<number>**' KB: Sets maximum segment size, in kilobytes. (The minimum segment size is 100 KB.)
  - *<number>* MB: Sets maximum segment size, in megabytes.
  - *<number>* `hr`: Sets maximum segment size, in hours. (The minimum segment size is 1 hour.)
- Changes Take Effect: Immediately.
- **Description:** Specifies whether log file has a segmentation limit, and if so, the segment maximum (measured in size or elapsed time). If the current log segment exceeds the size set by this option, the current file is closed and a new one is created.

> **Important**
> This option affects only SOAP deployments of GIS.

standard

- Default Value: [none]
- Valid Values: `network, ../logs/all.log, all.log, stdout`
- **Description:** Sets output options for the `standard` log level. The values are each optional, and can be combined:
  - `network` specifies that these logs will be output to MessageServer if GIS is connected to it.
  - `../logs/all.log` specifies an output file for this log level, for a GIS:SOAP connector.
  - `stdout` specifies that this log level will be output to a console if the console is available.

> **Warning**
> If you have deployed a GIS:SOAP connector as a Web Module, replace the default relative path to the log file (../logs/all.log) with a fully qualified path/file name, of the form: <logpath>/<logfilename>.log

> **Important**
> This option affects only SOAP deployments of GIS.

trace

- Default Value: [none]
- Valid Values: `network, ../logs/all.log, all.log, stdout`
- **Description:** Sets output options for the `trace` log level. The values are each optional, and can be combined:
  - `network` specifies that these logs will be output to MessageServer if GIS is connected to it.
  - `../logs/all.log` specifies an output file for this log level, for a GIS:SOAP connector.
  - `stdout` specifies that this log level will be output to a console if the console is available.

> **Warning**
> If you have deployed a GIS:SOAP connector as a Web Module, replace the default relative path to the log file (../logs/all.log) with a fully qualified path/file name, of the form: <logpath>/<logfilename>.log

> **Important**
> This option affects only SOAP deployments of GIS.

verbose

- Default Value: `trace`
- Valid Values: `all, debug, standard, trace`
- **Description:** Sets the target log's level.

> **Important**
> This option affects only SOAP deployments of GIS.

session-services Section

sessionTimeout

- Default Value: `3600`
- Valid Values: `0 to 2,147,483,647`
- Changes Take Effect: Immediately.

This sets a timeout, in seconds, for incoming `POST HTTP` requests. After expiration, the agent is logged out. A value of `0` (zero) disables the timeout; a value cannot be negative.

stat-services Section

restriction_time

- Default Value: `30 seconds`
- Valid Values: `3 seconds` or greater
- **Description:** This parameter specifies how long the client must wait between `retrieveSubscribedStatistic` requests.

error_check

- Default Value: `true`
- Valid Values: `true` or `false`
- **Description:** This option establishes whether GIS uses error checking during statistics subscriptions. To disable error checking, set this value to `false`.

> **Important**
> If you are experiencing exceptionally long subscription times, set this value to `false`. In that case, subscriptions are allowed even if the parameters you specified are incorrect. You will receive an error message when you try to retrieve statistics with invalid parameters. You must then unsubscribe to the invalid statistic.

scopeStatEvents (optional)

- Default Value: 15
- Valid Values:
- **Description:** Use this option to set the maximum number of statistic events that a client application can retrieve for one statistic.

[GSAP.General] Section

ha-session-ttl

- Default Value: `86400000` (24 hours)
- Valid Value: Any positive integer.

> **Important**
> This option applies to the HA-DB architecture only.

- **Description:** Specifies the time interval (milliseconds) that a session record will be saved in the database. Specifically, if the difference between the current time (ct) and the last-updated time (lut) is greater than ha-session-ttl ([ct-lut] > [ha-session-ttl]), the record is inactive and it will be deleted.

> **Important**
> Inactive-session records are deleted to manage the database size.

max.param.count

- Default Value: `200`
- Valid Value: Any positive integer.
- **Description:** Maximum size of array for deserialized objects when deserialization takes place.

nat-mode

- Default Value: `false`
- Valid Value: `true, false`
- **Description:**
  - When set to `false`, GIS.GSAP can not work with clients through NAT.
  - When set to `true`, GIS.GSAP is able to work with clients through NAT with following drawbacks:
    - Load Balancing will be disabled for this server, even if `lb-cluster-servers` is set.
    - Clients using .NET proxy servers prior to version 7.6.000.01, will encounter an error during the handshake phase and disconnect from the server.

> **Important**
> There are no compatibility issues with any versions of the Java proxy servers.

> **Important**
> The `nat-mode` option is not included in the GIS configuration template, and must be added manually to your GIS configuration options.

server.backlog

- Default Value: `1000`
- Valid Values: Any positive integer.

- **Description:** Specifies the maximum number of client connections in the server-socket backlog-queue. Any client's connection request is refused if the queue is full.

server.clientsocket.enablekeepalive

- Default Value: `true`
- Valid Values: `true, false`
- **Description:** Specifies whether to enable or disable the `SO_KEEPALIVE` parameter for client sockets.

server.clientsocket.enabletcpnodelay

- Default Values: `true`
- Valid Values: `true, false`
- **Description:** Specifies whether to enable or disable the `TCP_NODELAY` parameter for client sockets.

server.clientsocket.sendbufsize

- Default Value: `524288`
- Valid Values: Any positive integer.
- **Description:** The `SO_SNDBUF` value is used by the platform networking code as a hint for the size to set the underlying network `Input/Output` buffers.

server.clientsocket.sotimeout

- Default Value: `10000`
- Valid Values: Any positive integer.
- Changes Take Effect: After Desktop Server is restarted.
- **Description:** Specifies whether to enable or disable `SO_TIMEOUT` with the specified timeout, in milliseconds, for the client socket. With this option set to a non-zero timeout, a `read()` call on the `InputStream` associated with this socket will block for only this amount of time.

  The timeout must be greater than `zero`; a timeout of zero is interpreted as an infinite timeout.

server.handlers.max

- Default Value: `2000`
- Valid Values: Any positive integer.

- **Description:** Specifies the peak expected server load (that is, the maximum number of expected simultaneous requests).
  If the client applications are using the pull-event mode, this value should be equal to, or greater than, the number of client applications connected to GIS.

> **Important**
>
> If the number of simultaneous requests exceeds this value, client requests will be dropped.

server.handlers.recommended

- Default Value: `200`
- Valid Values: Any positive integer.
- **Description:** Specifies the average expected server load (that is, the average number of expected simultaneous requests).

[GSAP.KeepAlive] Section

handler-daemon-audit-interval

- Default Value: `5000`
- Valid Values: Any positive integer.
- **Description:** Threshold value, in milliseconds, for the audit interval during which the handler tracker daemon thread tracks and releases resources used by disconnected clients.

handler-daemon-inactivity-interval

- Default Value: `1000`
- Valid Values: Any positive integer.
- **Description:** Sleep interval, in milliseconds, for the handler tracker daemon thread. This thread is inactive during the specified interval.

ping-daemon-audit-interval

- Default Value: `3000`

- Valid Values: Any positive integer.
- **Description:** Waiting time threshold, in milliseconds, for Ping response messages from the client. If no response, the client is either disconnected or Pinged once more (if `ping-times-threshold` is not exceeded).

ping-daemon-inactivity-interval

- Default Value: `500`
- Valid Values: Any valid positive integer.
- **Description:** Sleep interval, in milliseconds, for the Ping daemon thread. This thread is inactive during the specified interval.

ping-times-threshold

- Default Value: 3
- Valid Values: Any valid positive integer.
- **Description:** Threshold, in milliseconds, for the amount of time the client connection will be Pinged before disconnection from the server.

session-timeout-threshold

- Default Value: `3600000`
- Valid Values: Any positive integer.
- **Description:** Threshold value, in milliseconds, for session inactivity between client and server. After this time slot, a Ping request should be sent from server to client.

[GSAP.LoadBalancing] Section

lb-clientsocket-enabletcpnodelay

- Default Value: `true`
- Valid Value: `true, false`
- Recommended Value: `true`
- **Description:** To enable or disable `TCP_NODELAY` for the `LoadBalancer` component's client socket.

lb-clientsocket-sotimeout

- Default Value: `5000`
- Valid Value: Any valid positive integer.
- **Description:** To enable or disable the socket timeout (`SO_TIMEOUT`) with the specified timeout, in milliseconds, for client socket of a `LoadBalancer` component.

lb-cluster-servers

- Default Value: [none]
- Valid Value: A sequence of *<host>:<port>* elements, separated by a comma. For example:92.168.83.77:1200, 127.0.0.1:1200
- **Description:** Each *<host>:<port>* element stands for the address of one server in the cluster. If there is no value, the server will not try to connect to other GIS:GSAP connectors.

lb-connector-exchange-interval

- Default Value: `5000`
- Valid Value: Any positive integer
- **Description:** Interval, in milliseconds, before load information updates are sent to remote GIS:GSAP connectors in a cluster.

lb-connector-process-interval

- Default Value: `30`
- Valid Value: Any positive integer number.
- **Description:** Sleep interval, in milliseconds, for `LBConnector` component socket listening thread. This thread is in idle stage for a determined time (Genesys recommends not less than `20ms`).

lb-load-threshold

- Default Value: `95.50`
- Valid Value: Any positive integer (float).
- **Description:** Specifies the threshold load value (as a percentage) for the current GIS:GSAP connector. This value specifies when to start redirecting connections to other servers in the cluster that have less load. A server will accept all client connections if the load on that server is less than the value specified by this option, even if the other servers in the cluster have a zero load value.

> **Important**
> It can be useful to give the primary server a lower value for this option, so that resources are free to handle new connections.

lb-load-delta-threshold

- Default Value: `20`
- Valid Value: Any positive integer less than or equal to 100.
- **Description:** Specifies the delta threshold value (as a percentage), after which updates are sent to remote GIS:GSAP connectors in cluster without waiting for the `lb-connector-process-interval` .

lb-max-connections-per-server

- Default Value: `100`
- Valid Value: Any positive integer, up to 1000.
- **Description:** Maximum number of connections for each server in the cluster. This value is used by the loading algorithm. This value does not represent the limit of accepted connection; it is one of the values that are used by the load calculation algorithm. The real limit of connection is set by the `DotNetServer.General:app.worker.threads` option.

> **Important**
> It can be useful to give the primary server a lower value for this option, so that resources are free to handle new connections.

lb-max-transfer-count

- Default Value: 2
- Valid Value: Any positive integer.
- **Description:** Maximum transfer count threshold for client. After this threshold, the client connection is accepted regardless of the current server load.

lb-port

- Default Value: `1201`
- Valid Value: Any valid port number.

- **Description:** Specifies a local port for the `LoadBalancer` component. If no port is specified, LoadBalancer does not start.

lb-process-interval

- Default Value: `30`
- Valid Value: Any positive integer.
- **Description:** Sleep interval, in milliseconds, for `LoadBalancer` component socket listening thread. This thread is in idle stage for a determined time (Genesys recommends not less than `20ms`).