Universal Automation Center Agent 7.5.x Reference Guide

Universal Agent 7.5.x

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1 Universal Automation Center Agent

Universal Automation Center Agent (UAG) provides agent services for Universal Controller, the Stonebranch workload automation solution that performs job scheduling, file transfer, and event monitoring across all server platforms in an enterprise.

UAG enables the Controller to schedule workload, transfer files, and monitor events on the Universal Agent system, integrating with the Controller to provide distributed, workload automation throughout the enterprise.

2 Usage

Universal Automation Center Agent (UAG) automatically starts when the Universal Broker starts and stops when the Universal Broker stops. In order for UAG to register with the Controller, UAG network configuration options must be appropriately defined for your local deployment.

UAG and the Controller communicate using the Universal Message Service (OMS) server. The OMS server provides for secure, reliable, asynchronous message oriented communications over TCP/IP sockets.

2.1 Configuration

UAG must be configured with the TCP/IP addresses of the OMS servers. An OMS server address is the TCP/IP port number and host name or IP address. A comma-separated list of OMS server addresses may be specified that represent an OMS server High Availability cluster.

For detailed information on the configuration options, see Universal Automation Center Agent Configuration Options.

2.2 Component Definition

The Component Definition is a text file of options that defines UAG-specific information required by the Universal Broker.

For detailed information on the Component Definition options, see Universal Automation Center Agent Component Definition Options.

2.3 Universal Access Control List

Universal Access Control Lists (UACLs) provide an additional layer of control over how work is executed by UAG. UAG is deployed on all Agents to perform services, such as executing tasks or monitoring files, on behalf of the Controller. Where the Controller provides a secure, central point of control for all enterprise workload, UACLs provide an additional layer of security control on the systems running UAG. The UACLs provide the ability to customize security controls as required by the local security policy that governs a system.

UAG can execute tasks with or without user credentials. The task credentials define the user account (and password) with which the task executes.

The UACLs provide two capabilities in regards to task execution:

1. Restrict the user accounts with which the Controller tasks execute. Specific user accounts can be denied or allowed access.
   For example, a UACL entry can deny access to any task request executing as root, or allow only specific user accounts to be used for task execution and deny all others.

2. Disable user authentication. User authentication is performed by UAG with the user account and password provided in the Controller credentials before UAG executes the requested task. For tasks executed from the Controller using specific user accounts, UACL entries can disable authentication so that passwords for these accounts do not have to be managed in the Controller. The task executes with the requested user account as if authentication was successfully completed.

Note

This is available only on UNIX and Linux platforms.

2.3.1 UACL Entries

The syntax of a UACL entry file is the same as the UAG configuration file.

For detailed information about each UACL entry, see Universal Automation Center Agent UACL Entries.

3 Detailed Information

The following pages provide additional detailed information for UAG:

- Universal Automation Center Agent on z/OS
- Universal Automation Center Agent Configuration Options
- Universal Automation Center Agent Component Definition Options
- Universal Automation Center Agent UACL Entries

4 Universal Automation Center Agent on z/OS

4.1 z/OS Application Monitoring and Control

The Universal Controller Application Monitoring and Control feature allows you to use Universal Controller as an application monitoring and control system. You can start, stop, and query applications running on any system where you have an Agent installed and running.

A z/OS Universal Controller Application resource identifies a z/OS started task to be monitored and controlled by a z/OS Agent. The z/OS Agent executes MVS system commands using an extended MCS console to perform the start, stop, and query actions specified in the Application resource.

4.2 Extended MCS Console

Universal Automation Center Agent (UAG) establishes an extended MCS console with the following attributes:

Extended MCS Attribute	Value
Command Authority	Master Authority
Console Key (used in DISPLAY C command)	NONE
Console Name	UBROKER SYSTEM_ID value
Command Scope	Current system
Message Scope	Current system
Override User Profile OPERPARM	Yes

4.2.1 Security

The extended MCS console is activated and deactivated with the UBROKER STC user ID. The system commands are executed using the extended MCS console with the user ID defined by the Application resource credentials. If no credentials are specified in the Application resource definition, the system commands are executed with the UBROKER STC user ID.

Extended MCS consoles can be protected so that only permitted users have the authority to issue commands. The RACF OPERCMDS class is used to establish user security for extended MCS consoles.

Refer to the IBM *MVS Planning: Operations* and the *Security Server RACF Security Administrator Guide* manuals for complete details.

4.3 GDG Datasets Restriction

File Monitors with Monitor Type = Exists or Create do not work with GDG datasets. Whether the generation is coded explicitly (for example: DATA.SET.NAME.G0001V00) or relatively (for example: DATA.SET.NAME(0)), the File Monitor will always end with 'Dataset Not Found'.

4.4 Data Set Deletion Report

The UAG Deleted Data Sets report lists the data sets that were deleted before a z/OS job ran. This includes all data sets that were considered for deletion (that is, all data sets that would normally have been deleted, except under special circumstances).

Some reasons for not deleting a data set are:

- User specified OPSDSDEL=NO
- Data set name is included in the dsn_delete_exclude list
- Data set is referenced in a step prior to the one that creates it.
- Data set was not created in a prior run because the step was skipped or flushed.
- An error occurred while trying to delete the data set.

4.5 UAG Audit Report

At start-up, UAG produces a report containing information useful to Stonebranch Support.

This includes information on:

- UAG version
- OS version
- UAG configuration information
- OS environmental information
- Other UAG information considered useful

5 Universal Automation Center Agent Configuration Options

5.1 Overview

This page provides links to detailed information on the configuration options available for use with the Universal Automation Center Agent (UAG).

The options are listed alphabetically, without regard to any specific operating system.

5.2 Configuration Options Information

For each configuration option, these pages provide the following information.

5.2.1 Description

Describes the configuration option and how it is used.

5.2.2 Usage

Provides a table of the following information:

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	<Format / Value>					

5.2.2.1 Method

Identifies the method used to specify Universal Automation Center Agent configuration options:

- Configuration File Keyword

5.2.2.2 Syntax

Identifies the syntax of the method used to specify the option:

- Format: Specific characters that identify the option.
- Value: Type of value(s) to be supplied for this method.

5.2.2.3 (Operating System)

Identifies the operating systems for which each method of specifying the option is valid:

- IBM i

- UNIX
- Windows
- z/OS

5.2.3 Values

Identifies all possible values for the specified value type.

Defaults are identified in **bold type**.

5.2.4 Additional Information>

Identifies any additional information specific to the option.

5.3 Configuration Options List

The following table identifies all Universal Automation Center Agent configuration options. Each **Option Name** is a link to detailed information about that option.

Option Name	Description
AGENT_CLUSTERS	List of Agent Clusters to join automatically.
AGENT_IP	IP address of an Agent.
AUTOMATIC_FAILOVER	Specification for whether or not automatic failover is used.
BUSINESS_SERVICES	Specification for the list of Business Services to join automatically.
CF_STRUCT_NAME	Name of a Coupling Facility structure that will be used to communicate from the secondary Agents to the primary Agent.
CODE_PAGE	Text translation code page.
DATA_DIRECTORY	Base directory for the UAG `cache/`, `logs/`, and `var/` sub-directories.
DSN_DELETE_EXCLUDE	Data sets that are excluded from UAG re-run data set delete processing.
EXTENSION_ACCEPT_LIST	Lists Extensions that Universal Agent will accept via auto-deployment from Universal Controller.
EXTENSION_CANCEL_TIMEOUT	Length of time that a Universal Extension task is given to complete its response to a CANCEL request received from Universal Controller.
EXTENSION_DEPLOY_ON_REGISTRATION	Controls Extension deployment behavior from Universal Controller.
EXTENSION_PYTHON_LIST	Controls Extension deployment behavior from Universal Controller.
FM_CREATE_FAIL_NODIR	Specification for whether or not a Universal Controller File Monitor task with a Monitor Type of **Create** will fail if the directory specified in the file(s) to monitor does not exist.
FM_FAULT_TOLERANT	Specification for whether or not File Monitors will behave in a fault tolerant manner.

FM_FAULT_TOLERANT_TIMEOUT	Specification for the amount of time that a fault tolerant File Monitor will tolerate a temporary fault condition before failing.
FM_FILES_OWNERSHIP	Specification for whether or not to retrieve file ownership information in Agent File Monitors.
FTP_FM_FAULT_TOLERANCE	Specification for whether or not to enable fault tolerance for FTP File Monitors when UFTP is executed from UAG.
GDG_PROCESSING	Specification for the type of GDG processing to use.
HIGH_COMMON_STORAGE	Maximum amount of high common storage (in MB) that will be used by an Agent to stage job tracking information.
INSTALLATION_DIRECTORY	Base directory where product is installed.
JCL_LIBRARY	JCL library ddname allocations.
JCL_SAVE_LIBRARY	JCL for all jobs submitted by UAG will be saved here.
JES_SYSOUT_CLASS	JES held class dedicate to UAG SYSOUT processing.
JES_SYSOUT_DISP	Disposition of a job's SYSOUT data sets once UAG has completed processing them.
JES_SYSOUT_RETENTION	Number of hours that job SYSOUT files are retained in the UAG cache directory.
JES_SYSOUT_SPACE	Allow configurable space parameters for UAGSRV Temporary Output Datasets on z/OS.
JES_SYSOUT_TIMEOUT	Make timeout on JES output read configurable.
JSC_DATASET	Name of the VSAM Job Submission Checkpoint cluster. In a sysplex environment, all Agents sharing the same system ID must use the same JSC.
JTSK_NUM	Number of job task worker threads (JTSK threads) created, which are responsible for job-related services, such as job submission, tracking, and JES sysout collection.
KEYSTORE_PATH	Path to a local or remote Universal Broker service interface from which an encryption key can be obtained.
KILL_PROCESS_TREE	Specification for whether or not UAG should always terminate the entire task process tree when a Cancel command is issued.
LOGLVL	Logging level of UAG.
LOGON_METHOD	Specification for whether the Batch Logon or Interactive Logon type will be used for all of the tasks executed by the Agent.
MAX_SSL_PROTOCOL	Maximum SSL/TLS protocol level that will be negotiated and used for communications channels.
MESSAGE_LEVEL	Level of messages written.
MIN_SSL_PROTOCOL	Minimum SSL/TLS protocol level that will be negotiated and used for communications channels.
NETNAME	Default network ID of UAG.
OMS_SERVERS	Port and network address of the Universal Message Service (OMS) server(s) used for network communications.
OTEL_ENABLE_TRACING	Specification for whether UAG will export traces to the OpenTelemetry collector.
OTEL_EXPORT_METRICS	Specification for whether UAG will export metrics to the OpenTelemetry collector.
OTEL_METRICS_ENDPOINT	URL used to export UAG metric data using the OTLP/HTTP(S) protocol to the OpenTelemetry Collector.
OTEL_METRICS_EXPORT_INTERVAL	Interval for how often to export the metrics to the OpenTelemetry Collector.

OTEL_SERVICE_NAME	Value of the `service.name` resource attribute used to identify UAG in traces and metrics.
OTEL_SSL_CA_CERT_PATH	Full path to the file containing one or more X.509 trusted certificates in PEM format. The certificate(s) will be used to validate the OpenTelemetry Collector (server).
OTEL_SSL_CLIENT_CERT_PATH	Full path to an X.509 certificate used to identify UAG to the OpenTelemetry Collector.
OTEL_SSL_CLIENT_KEY_PATH	Full path to the PEM formatted file containing the private key associated with the client certificate specified by the OTEL_SSL_CLIENT_CERT_PATH option.
OTEL_SSL_INSECURE_SKIP_VERIFY	Specification for whether to validate the Opentelemetry Collector's (server's) certificate against the locally configured CA certificate (specified by OTEL_CA_CERT_PATH option).
OTEL_TRACE_ENDPOINT	URL used to export UAG trace data using the OTLP/HTTP(S) protocol to the Opentelemetry Collector.
OTEL_UIP_SERVICE_NAME	Value of the `service.name` resource attribute used to identify an Extension worker process in traces and metrics.
PDSE_SHARING	Specification for whether UAG will allocate PDS/E datasets for output with DISP=SHR (yes) or DISP=OLD (no).
PROCESS_CANCEL_TIMEOUT	Length of time that an OS task is given to complete its response to a CANCEL request received from Universal Controller.
PROXY_URL	Specifies the proxy server address to be used for OMS connection.
REQUEST_Z/OS_LICENSES	Number of z/OS Agent licenses to request from Universal Controller in a Sysplex environment.
RERUN_LOAD_LIBRARY	Location of the Stonebranch Rerun Utility (UAGRERUN).
RERUN_PROC_NAME	Specifies the name of a JCL procedure that can optionally be used to replace the standard UAGRERUN step inserted into any job submitted by UAG.
SECURITY	Activates user security.
SERVICE_TIMEOUT	Specifies the idle time in seconds after which the Agent must drop the OMS connection and attempt to re-establish it.
SSL_CIPHER_LIST	SSL/TLS cipher suites acceptable for use by the SSL/TLS protocol.
SSL_CIPHER_SUITES	SSL/TLS 1.3 specific cipher suites that are acceptable to use for network communications between UAG and OMS Server.
SSL_CLIENT_AUTH	Provides client's certificate to the OMS Server for client certificate authentication, if the SSL/TLS protocol is used for network communication.
SSL_SERVER_AUTH	Enables OMS server certificate authentication if the SSL/TLS protocol is used for network communication.
TASK_RETRY_COUNT	Nnumber of attempts to retry a task, in an interval specified by the TASK_RETRY_INTERVAL configuration option, before the task goes to the Failed status.
TASK_RETRY_INTERVAL	Number of seconds that will elapse between a failed start task retry attempt and the retry of that start task attempt.
TMP_DIRECTORY	Directory for temporary files.
TRACE_DIRECTORY	Directory for trace files.
TRACE_FILE_LINES	Maximum number of lines written to the trace file.
TRACE_TABLE	Memory trace table specification.
TRANSIENT	Specification for whether to register the Agent as a transient Agent or a regular, persistent Agent.
TXTDEBUG	Specification for enabling or disabling additional diagnostics messages.

z/OS_JOB_SYSAFF	Instructs UAG to add a SYSAFF keyword to its JCL JOB statement.
z/OS_JOB_SYSTEM	Instructs UAG to add a SYSTEM keyword to its JCL JOB statement.

5.4 AGENT_CLUSTERS - UAG configuration option

5.4.1 Description

The AGENT_CLUSTERS option specifies the list of Agent Clusters to join automatically.

(For information on creating agent clusters and assigning agents to agent clusters, see Agent Clusters.)

5.4.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	agent_clusters *list*			✓	✓	✓

5.4.3 Values

list is the list of Agent Clusters to join automatically.

The syntax of *list* is a text string. Cluster names are separated by commas.

For example:

agent_clusters 'GA Cluster, CA Cluster'

Default is 'Opswise - Default Linux/Unix Cluster, Opswise - Default Windows Cluster'.

If both agent_clusters and business_services options are specified, business_services option will be processed first.

5.5 AGENT_IP - UAG configuration option

5.5.1 Description

The AGENT_IP option specifies the IP address or host name (which resolves to an IP address) that the Agent reports to the Controller.

- If AGENT_IP specifies an IP address, the Agent reads the list of local network interfaces (and their IP addresses) and compares the specified IP address against the list. If the specified IP address is not the address of one of the local interfaces, the Agent reports an error and terminates.
- If AGENT_IP specifies a host name, the host name gets resolved to an IP address. The Agent reads the list of local network interfaces (and their IP addresses) and compares the IP address of the specified host name against the list. If the Agent cannot resolve the host name to an IP address, the Agent reports an error and terminates.
- If the AGENT_IP is not specified, the Agent gets its host name and resolves that to an IP address. If the name cannot be resolved, **127.0.0.1** is used as the IP address; otherwise, the resolved address is used.

5.5.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	agent_ip *address*			✓	✓	✓

5.5.3 Values

address is the IP address or host name of the Agent.

5.6 AUTOMATIC_FAILOVER - UAG configuration option

5.6.1 Description

The AUTOMATIC_FAILOVER option specifies whether or not automatic failover is used.

Automatic failover allows a Secondary agent to become the Primary agent when the original Primary agent ends.

5.6.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	automatic_failover *usage*					✓

5.6.3 Values

usage is the specification for when automatic failover is used.

Valid values:

- **never**
  Automatic failover will not occur. Manual failover is still available.
- **always_primary**
  For agents configured as Primary agents only. This agent should always be Primary. If another Primary agent is active

when this agent starts, that agent will become a Secondary agent. If this agent cannot be a Primary agent, it will shut down.

- **primary_secondary**
  For agents configured as Primary agents only. This agent will try to start as a Primary agent. If another Primary agent is already active, this agent will become a Secondary agent. It becomes first in the ranking to become Primary during failover.
- **secondary_primary[n]**
  For agents configured as Secondary agents only: This agent will start as a Secondary agent. When the Primary agent ends, this agent is eligible to become the Primary agent.
  - An optional integer **[n]** controls the ranking of multiple Secondary agents during failover. A lower number means a higher priority in the failover ranking.
  - When multiple agents have the same ranking, the agent that started earliest will be considered to have a higher ranking.
  - Default for **[n]** is 1. The range is 1-32.

Default is **never**.

5.7 BUSINESS_SERVICES - UAG configuration option

5.7.1 Description

The BUSINESS_SERVICES option specifies the list of Business Services to join automatically.

(For information on creating business services and assigning records to business services, see Business Services.)

5.7.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	business_services *list*			✓	✓	✓

5.7.3 Values

list is the list of Business Services to join automatically.

The syntax of list is a text string. Business Service names are separated by commas.

For example:

business_services ‘Collections, Fees'

Default is none.

5.8 CF_STRUCT_NAME - UAG configuration option

5.8.1 Description

The CF_STRUCT_NAME option specifies the name of a Coupling Facility structure that will be used to communicate from the secondary Agents to the primary Agent. All Agents sharing the same system ID must use the same Coupling Facility structure name.

CF_STRUCT_NAME is required if the value of the SYSPLEX_ROLE Universal Broker configuration option is **primary** or **secondary**.

5.8.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	cf_struct_name *name*					✓

5.8.3 Values

name is the name of a Coupling Facility structure that will be used to communicate from the secondary Agents to the primary Agent.

There is no default value.

5.9 CODE_PAGE - UAG configuration option

5.9.1 Description

The CODE_PAGE option specifies the character code page that is used to translate text data received and transmitted over the network.

The Universal Translate Table (UTT) files are used to translate between Unicode and the local single-byte code page.

5.9.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	codepage *codepage*			✓	✓	✓

5.9.3 Value

codepage is the character code page that is used to translate data.

codepage references a Universal Translate Table (UTT) file provided with the product (see UTT Files for information on UTT files). UTT files are used to translate between Unicode and the local single-byte code page. (All UTT files end with an extension of **.utt**.)

5.9.3.1 Default

The default code page is different for different operating systems:

- ISO8859-1 (8-bit ASCII): ASCII-based operating systems
- IBM1047 (EBCDIC): EBCDIC-based operating system

See Character Code Pages for a complete list of character code pages provided by Stonebranch Inc. for use with Universal Agent components.

5.10 DATA_DIRECTORY - UAG configuration option

5.10.1 Description

The DATA_DIRECTORY option specifies the base directory for the UAG `cache/`, `logs/`, and `var/` sub-directories.

> **Note**
>
> By default, these sub-directories are hard-coded to `/var/opt/universal/uag`. This presents a problem when trying to run multiple Universal Brokers/UAGs on the same system, and in a scenario where you cannot have those directories under `/var/opt/universal/uag`.

5.10.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	data_directory *directory*			✓	✓	

5.10.3 Value

directory is the full path name of the base directory for the UAG `cache/`, `logs/`, and `var/` sub-directories.

5.10.3.1 Defaults

UNIX	`/var/opt/universal/uag`

Windows	'.' (which gets translated to `<Installation Directory>\UAGSrv`)

5.11 DSN_DELETE_EXCLUDE - UAG Configuration Option

5.11.1 Description

The DSN_DELETE_EXCLUDE option specifies the names of data sets that are excluded from UAG data set delete processing.

When UAG launches a zOS task, it analyzes the JCL to determine which data sets to delete in order to avoid duplicate data set creation. Data sets specified to be excluded from delete processing are never considered by UAG for deletion, even in cases where they should be in order to successfully re-run a job.

The DSN_DELETE_EXCLUDE option can be specified multiple times. All specified data sets are added to the list of data sets to exclude from delete processing.

5.11.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	dsn_delete_exclude *dataset* [,*dataset*]...					✓

5.11.3 Value

dataset is the name of a data set to exclude from delete processing.

dataset can be either a fully-qualified data set name or it can end with an asterisk (*) to match any data set name starting with the specified *dataset* value. An asterisk can only be used at the end of the *dataset* value.

There is no default value.

5.11.4 Examples

```
dsn_delete_exclude    sys1.*,sys2.*,app.prod.data
```

This example excludes all data sets starting with `SYS1.` and `SYS2.` and fully-qualified data set `APP.PROD.DATA` from UAG data set delete processing. UAG will never delete these data sets, even when it would be necessary to successfully execute or re-run a job.

```
dsn_delete_exclude    sys1.*
dsn_delete_exclude    sys2.*
dsn_delete_exclude    app.prod.data
```

This example excludes the same data sets as the previous example from delete processing. The DSN_DELETE_EXCLUDE option is used multiple times to specify each of the data sets to be excluded instead of a comma-separated list of data set names.

```
dsn_delete_exclude    *
```

This example excludes all data sets from delete processing.

5.12 EXTENSION_ACCEPT_LIST - UAG configuration option

5.12.1 Description

The EXTENSION_ACCEPT_LIST option lists Extensions that Universal Agent will accept from Universal Controller.

5.12.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	extension_accept_list *list*		✓	✓	

5.12.3 Values

list is a comma-delimited list of zero or more Extensions that the Agent will accept via auto-deployment from Universal Controller.

- An empty *list* will cause UAG to deny extension deployment.
- A *list* value of ***** will cause UAG to accept any extension deployed by the Controller.

Default is * (accept any extension).

5.13 EXTENSION_CANCEL_TIMEOUT - UAG configuration option

5.13.1 Description

The EXTENSION_CANCEL_TIMEOUT option specifies the length of time that a Universal Extension task is given to complete its response to a CANCEL request received from Universal Controller.

If the task fails to finish its own termination processing within the specified timeout period, UAG Server will forcefully terminate the task.

5.13.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	extension_cancel_timeout *time*[**s**|**m**|**h**|**d**]		✓	✓	

5.13.3 Values

time must be numeric, but a one-letter suffix is accepted to specify a time unit of (**s**)econds, (**m**)inutes, (**h**)ours, or (**d**)ays. If no time unit is specified, the default is seconds.

The following maximums are enforced:

- 2147483647 or 2147483647s
- 35791394m
- 596523h
- 24855d

Minute, hour, and day maximums are set to ensure that their value, when represented as a number of seconds, does not exceed 2147483647.

Default is 10 seconds.

5.14 EXTENSION_DEPLOY_ON_REGISTRATION - UAG configuration option

5.14.1 Description

The EXTENSION_DEPLOY_ON_REGISTRATION option controls Extension deployment behavior from Universal Controller.

5.14.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	extension_deploy_on_registration *option*		✓	✓	

5.14.3 Values

option specifies when the Controller will send Extensions to the Universal Agent.

Valid values for *option* are:

- **yes**
  Universal Controller will pre-emptively deploy all Extensions acceptable by UAG (in accordance with the EXTENSION_ACCEPT_LIST option) upon Agent registration.

- **no**
  Universal Controller will only send Extension modules as needed (on demand).

Default is no.

5.15 EXTENSION_PYTHON_LIST - UAG configuration option

5.15.1 Description

The EXTENSION_PYTHON_LIST option specifies Python interpreters that are eligible to run Universal Extensions.

5.15.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	extension_python_list *list*		✓	✓	

5.15.3 Values

list is a comma-delimited list of zero or more *absolute* paths to Python interpreters that UAG Server will consider for Universal Extension execution. UAG Server uses the first Python interpreter that satisfies the Extension's Python version requirement to execute the Extension.

UAG Server will look first for the Python interpreter supplied by the Universal Agent package's Python distribution, unless the path to that interpreter is explicitly specified in *list*.

If the Agent's Python distribution is not found or does not satisfy the Universal Extension's requirement, UAG Server checks the default locations (see below) or the user-specified *list*.

On Windows, a final check is made (if necessary) against external Python installations whose install locations are recorded in the Windows system registry under HKLM\SOFTWARE\Python\PythonCore.

If the EXTENSION_ACCEPT_LIST is empty or set to **none**, the search for available Python interpreters is skipped.

UNIX	Default value for *list* is `/usr/bin/python3,usr/bin/python,/usr/libexec/platform-python`.
Windows	No default value for *list,* but an empty or missing list will still cause UAG Server to check the Universal Agent-supplied Python distribution and the Windows system registry as described above.

5.16 FM_CREATE_FAIL_NODIR - UAG configuration option

5.16.1 Description

The FM_CREATE_FAIL_NODIR option specifies whether or not a Universal Controller File Monitor task with a Monitor Type of **Create** will fail if the directory specified in the file(s) to monitor does not exist.

Note

Starting with UAGSRV 5.2.0.0, the default behavior of **Create** File Monitor tasks was changed to fail if the directory provided in the file path did not exist. This behavior is incompatible with pre-5.2.0.0 releases.

UAGSRV 5.2.0.11 (delivered with the Universal Agent 5.2.0.11 maintenance release) restored the default behavior that existed prior to 5.2.0.0, which allows a File Monitor task to continue executing and to wait (if necessary) for the complete path to be created.

For any **Create** File Monitor task you may have implemented since 5.2.0.0 - where the task is expected to fail if the directory does not exist - UAGSRV 5.2.0.11 provided FM_CREATE_FAIL_NODIR to restore pre-5.2.0.11 behavior.

The behavior delivered with UAGSRV 5.2.0.11 will continue to be the default, and any new **Create** File Monitor tasks should be designed with this in mind.

5.16.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	fm_create_fail_nodir *option*			✓	✓	✓

5.16.3 Values

option specifies whether or not a **Create** File Monitor task will fail if the specified directory does not exist when the task begins execution.

Valid values for *option* are:

- **yes**
  Task will fail if the specified directory does not exist when the task is launched.
- **no**
  Task will continue to execute if the specified directory does not exist when the task is launched.

Default is no.

5.17 FM_FAULT_TOLERANT - UAG configuration option

5.17.1 Description

The FM_FAULT_TOLERANT option specifies whether or not File Monitors will behave in a fault tolerant manner.

Fault tolerant File Monitors will handle error conditions that are considered temporary by retrying the action for an amount of time specified by the FM_FAULT_TOLERANT_TIMEOUT UAG configuration option.

If a fault is not resolved in the time period specified by FM_FAULT_TOLERANT_TIMEOUT, the File Monitor will fail.

If FM_FAULT_TOLERANT is set (to **no**) so that File Monitors do not behave in a fault tolerant manner, any fault encountered by a File Monitor will result in a failure.

5.17.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	fm_fault_tolerant *option*				✓	

5.17.3 Values

option specifies whether or not fault tolerant File Monitor behavior is enabled.

Valid values for *option* are:

- **yes**
  File Monitors will handle error conditions that are considered temporary by retrying the action.
- **no**
  Any fault encountered by File Monitors will result in a failure.

Default is no.

5.18 FM_FAULT_TOLERANT_TIMEOUT - UAG configuration option

5.18.1 Description

The FM_FAULT_TOLERANT_TIMEOUT option specifies the amount of time that a fault tolerant File Monitor will tolerate a temporary fault condition before failing.

5.18.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	fm_fault_tolerant_timeout *time*				✓	

5.18.3 Values

time specifies the amount of time that a fault tolerant File Monitor will tolerate a temporary fault condition before failing.

Format: **nnnn[s|m|h|d]**

- **nnnn** = numeric value
- **s** = seconds
- **m** = minutes
- **h** = hours
- **d** = days

Default is 120s.

5.19 FM_FILES_OWNERSHIP - UAG configuration option

5.19.1 Description

The FM_FILES_OWNERSHIP option specifies whether or not to retrieve file ownership information in Agent File Monitors.

> **Note**
>
> Retrieving file ownership information may cause delays if performed on a network shared in a domain.

5.19.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	fm_files_ownership *option*				✓	

5.19.3 Values

option specifies whether or not to retrieve file ownership information in Agent File Monitors.

Valid values for *option* are:

- **yes**
  Retrieve file ownership information.
- **no**
  Owner user name and group are unavailable.

Default is yes.

5.20 FTP_FM_FAULT_TOLERANCE - UAG configuration option

5.20.1 Description

The FTP_FM_FAULT_TOLERANCE option specifies whether or not to enable fault tolerance for FTP File Monitors when UFTP is executed from UAG.

5.20.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	ftp_fm_fault_tolerance *option*			✓	✓	✓

5.20.3 Values

option specifies whether or not fault tolerant FTP File Monitor behavior is enabled.

Valid values for *option* are:

- **yes**
  FTP File Monitors will retry on any error if Wait Until Satisfied option is turned on. If an error still occurs after the Maximum Polls attempts, the FTP File Monitor instance is switched to the Start Failure state.
- **no**
  FTP File Monitors will go to Start Failure in the case where any error occurs during the FTP/SFTP/FTPS sessions, even if the Wait Until Satisfied option is turned on. .

Default is no.

5.21 GDG_PROCESSING - UAG configuration option

5.21.1 Description

The GDG_PROCESSING option specifies the type of GDG processing to use.

5.21.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	gdg_processing *type*					✓

5.21.3 Values

type is the type of GDG processing.

Valid values for *type* are:

- **absolute**
  Absolute name of any GDGs will be captured during the initial run of a job (for example: .G0001V00). This absolute name will be used during reruns of the job. This is the original behaviour.
- **relative**
  Relative generation (for example: +1 or 0) of any GDGs referenced by a job will be maintained during reruns. If a step which creates a new generation of a GDG is skipped during rerun, subsequent relative references to the GDG will be adjusted to compensate. For example, if a step which creates a +1 generation is skipped during rerun, a subsequent step which reads in generation +1 will be adjusted to read in generation 0. Thus preserving the original intent.

Default is absolute.

5.22 HIGH_COMMON_STORAGE - UAG configuration option

5.22.1 Description

The HIGH_COMMON_STORAGE option specifies the maximum amount of high common storage (in MB) that will be used by this Agent to stage job tracking information.

5.22.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	high_common_storage *amount*					✓

5.22.3 Values

amount is the maximum amount of high common storage (in MB) that will be used by this Agent to stage job tracking information.

Limit is 128; Default is 4.

5.23 INSTALLATION_DIRECTORY - UAG configuration option

5.23.1 Description

The INSTALLATION_DIRECTORY option specifies the Universal Automation Center Agent (UAG) base installation directory.

Note

This is a required option.

5.23.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	installation_directory *directory*			✓	✓	

5.23.3 Value

directory is the name of the UAG base installation directory.

A full path name is required.

UNIX

If UAG is installed in `/opt/universal/uag`, specify that entire path name: `/opt/universal/uag`.

Windows

The default is set in the `uags.conf` file at installation time.

5.24 JCL_LIBRARY - UAG configuration option

5.24.1 Description

The JCL_LIBRARY option specifies the JCL library ddname allocations.

JCL libraries are referred to by Universal Controller z/OS task definitions by ddname and member name for batch job submission.

You can JCL_LIBRARY multiple times for the same ddname. All the data sets specified on the JCL_LIBRARY options are concatenated on the ddname in the order read.

5.24.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jcl_library *ddname,dataset*[UAG520:*,dataset*]...					✓

5.24.3 Value

The value is a ddname followed by a comma-seperated list of one or more data set names to allocate to the ddname. The data sets are concatenated on the ddname in the order listed.

There is no default value.

5.24.3.1 Examples

```
jcl_library    prod,sys1.jcl.cntl,sys2.jcl.cntl
```

This example illustrate two data sets being allocated to ddname PROD.

`sys1.jcl.cntl` will be first in the concatenation since it is first in the data set list.

```
jcl_library  prod,sys1.jcl.cntl
jcl_library  prod,sys2.jcl.cntl
jcl_library  "test, test1.jcl.cntl, +
                    test2.jcl.cntl, +
                    test3.jcl.cntl"
```

This example illustrates two ddnames being allocated, PROD and TEST.

- The PROD ddname will have data sets `sys1.jcl.cntl` and `sys2.jcl.cntl` allocated in that order.

- The TEST ddname will have `test1.jcl.cntl`, `test2.jcl.cntl`, `test3.jcl.cntl` allocated in that order.

5.25 JCL_SAVE_LIBRARY - UAG configuration option

5.25.1 Description

When this option is specified, the JCL for all jobs submitted by UAG will be saved here. The dataset should be a PDS/E (recommended) or PDS with a fixed record length of 80. JCL will be saved using the job name as the member name.

5.25.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jcl_save_library *PDS/E dataset*					✓

5.25.3 Value

The value is the name of a PDS/E dataset.

Default is **None.**

5.26 JES_SYSOUT_CLASS - UAG configuration option

5.26.1 Description

The JES_SYSOUT_CLASS option specifies the JES held class dedicated to UAG SYSOUT processing.

Universal Automation Center Agent (UAG) processes a number of SYSOUT data sets produced by the batch jobs it submits. When there are multiple SYSOUT applications in the environment, JES_SYSOUT_CLASS must be specified for UAG to reliably process the SYSOUT data sets.

By specifying a JES_SYSOUT_CLASS value, UAG will add or update the JCL JOB statement MSGCLASS parameter to the JES_SYSOUT_CLASS value. UAG will process the SYSOUT data sets from this JES held class. Once it has completed processing, it performs final disposition of the SYSOUT data sets as specified by the UAG JES_SYSOUT_DISP option.

See JES SYSOUT Processing for a description of UAG SYSOUT Processing configuration.

5.26.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jes_sysout_class *class*					✓

5.26.3 Value

class is the JES held class dedicated to UAG SYSOUT processing.

Valid value for *class* is any JES held class. A JES held class is defined with a JES JOBCLASS statement with an OUTDISP parameter value of HOLD,HOLD. The class must be used exclusively by UAG.

If no class is specified, UAG will select a job's SYSOUT data sets from any class with any disposition (held or not).

5.27 JES_SYSOUT_DISP - UAG configuration option

5.27.1 Description

The JES_SYSOUT_DISP option specifies the disposition of a job's SYSOUT data sets once Universal Automation Center Agent (UAG) has completed processing them.

The JES_SYSOUT_DISP, JES_SYSOUT_CLASS, and JES_SYSOUT_RETENTION options together are used to configure UAG's SYSOUT processing.

See JES SYSOUT Processing for a description of UAG SYSOUT Processing configuration.

5.27.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jes_sysout_disp *disp* [, { * [,*defaultClass*] | *class* }]					✓

5.27.3 Value

disp is the SYSOUT data sets disposition.

Valid values for *disp* are:

- DELETE
  SYSOUT data sets are deleted from the JES spool.
- KEEP
  SYSOUT data sets are kept as they are.
- HOLD
  SYSOUT data sets are held.
- RELEASE
  SYSOUT data sets are released.

For disposition values other than DELETE, the SYSOUT data sets can be requeued to another JES class, *class*.

The requeue *class* value is optional. If it is not specified, the SYSOUT data sets remain in their current class.

Valid values for *class* are:

- An asterisk (*) specifies the SYSOUT data sets are requeued back to the original MSGCLASS value. This option works in conjunction with the JES_SYSOUT_CLASS option. The *defaultClass* value is the default class if the job's JCL JOB statement did not include a MSGCLASS parameter. The *defaultClass* default is class A.
- A JES class to which the SYSOUT data sets are requeued.

If the JES_SYSOUT_DISP value is anything other than KEEP, the JES_SYSOUT_CLASS option is required.

5.27.4 Examples

```
jes_sysout_disp    keep,*,H
```

This example sets the final disposition of SYSOUT data sets to KEEP, which will leave the SYSOUT data sets disposition unchanged.

The requeue class is *, which works in conjunction with the JES_SYSOUT_CLASS option. The SYSOUT data sets are requeued to the orignal MSGLCLASS value of the job. If the job's JCL JOB statement originally included MSGCLASS=X, the SYSOUT data sets will be requeued to class X. If the JOB statement did not include a MSGCLASS parameter, the SYSOUT data sets are requeued to the default class of H.

```
jes_sysout_disp    release,*
```

This example sets the final disposition of SYSOUT data sets to RELEASE, which will release the SYSOUT data sets to the JES output queue.

The requeue class is *, which works in conjunction with the JES_SYSOUT_CLASS option. The SYSOUT data sets are requeued to the orignal MSGLCLASS value of the job. If the job's JCL JOB statement originally included MSGCLASS=H, the SYSOUT data sets will be requeued to class H. If the JOB statement did not include a MSGCLASS parameter, the SYSOUT data sets are requeued to the default, default class of A.

```
jes_sysout_disp    hold,H
```

This example sets the final disposition of SYSOUT data sets to HOLD, which sets the SYSOUT data sets disposition to hold.

The SYSOUT data sets are requeued to class H.

```
jes_sysout_disp    delete
```

This example sets the final disposition of SYSOUT data sets to DELETE, which removes the SYSOUT data sets from the JES spool.

5.28 JES_SYSOUT_RETENTION - UAG Configuration Option

5.28.1 Description

The JES_SYSOUT_RETENTION option specifies the number of hours that job SYSOUT files are retained in the UAG cache directory. The SYSOUT files are deleted once the retention period expires.

See JES SYSOUT Processing for a description of UAG SYSOUT Processing configuration.

5.28.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jes_sysout_retention *hours*					✓

5.28.3 Value

hours is the number of hours job SYSOUT files are retained in the UAG cache directory.

The default is **1**.

5.29 JES_SYSOUT_SPACE - UAG Configuration Option

5.29.1 Description

The JES_SYSOUT_SPACE option allows configurable space parameters for UAGSRV Temporary Output Datasets on z/OS.

5.29.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jes_sysout_space <UnitName>,TRK|CYL,<PrimQty>,<SecQty>					✓

5.29.3 Values

Default is: SYSALLDA,TRK,30,300

<UnitName> can be any valid DASD generic, symbolic or group name.

TRK or CYL must be coded as shown.

<PrimQty> and <SecQty> are the primary and secondary allocation amounts (cylinders or tracks) respectively.

5.30 JES_SYSOUT_TIMEOUT - UAG Configuration Option

5.30.1 Description

The JES_SYSOUT_TIMEOUT option makes timeout on JES output read configurable.

5.30.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jes_sysout_timeout <seconds>					✓

5.30.3 Values

Default is: 10

The minimum value is 5, the maximum value is 3600.

5.31 JSC_DATASET - UAG configuration option

5.31.1 Description

The JSC_DATASET option specifies the name of the VSAM Job Submission Checkpoint (JSC) cluster. In a Sysplex environment, all Agents sharing the same system ID must use the same JSC.

JSC_DATASET is required for all z/OS users.

5.31.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jsc_dataset *name*					✓

5.31.3 Values

name is the name of the VSAM Job Submission Checkpoint cluster.

There is no default value.

5.32 JTSK_NUM - UAG configuration option

5.32.1 Description

UAG uses a fixed number of job task worker threads (JTSK threads) responsible job-related services, such as job submission, tracking, and JES sysout collection.

The JTSK_NUM option specifies the number of JTSK threads created. Job task throughput may be improved with more JTSK threads, depending on O/S resource availability.

5.32.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	jtsk_num *number*			✓	✓	✓

5.32.3 Value

number is the number of JTSK threads created. Valid vales are in the range of 1 to 64, inclusively.

Default is 5.

5.33 KEYSTORE_PATH - UAG configuration option

5.33.1 Description

The KEYSTORE_PATH option specifies the local or remote Universal Broker service interface from which an encryption key can be obtained.

5.33.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	keystore_path *path*			✓	✓	✓

5.33.3 Value

path is the path to the local or remote Universal Broker service interface.

5.34 KILL_PROCESS_TREE - UAG configuration option

5.34.1 Description

The KILL_PROCESS_TREE option specifies whether or not UAG should always terminate the entire task process tree when a Cancel command is issued.

Normally, the entire process tree is terminated, but if one or more of the Children processes ignore/handle the initial SIGTERM signal, they will continue to run even after the task is cancelled.

If KILL_PROCESS_TREE is enabled, however, all descendant processes will be terminated regardless of whether the SIGTERM signal is ignored/handled or not.

Note

This option is available only for Linux/Unix systems.

5.34.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	kill_process_tree *option*				

5.34.3 Values

Valid values are:

- **yes**
  Agent always terminates the entire task process tree.
- **no**
  Agent attempts to terminate the entire task process tree, but children processes can avoid this by ignoring/handling the SIGTERM signal.

Default is no.

5.35 LOGLVL - UAG configuration option

5.35.1 Description

The LOGLVL option specifies the logging level of Universal Automation Center Agent (UAG).

5.35.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	loglvl *level*			✓	✓	✓

5.35.3 Values

level is the logging level of UAG.

Valid values for *level* are:

- **E** - ERROR level.
- **W** - WARN level.
- **I** - INFO level.
- **D** - DEBUG level.
- **T** - TRACE level.

Default is I.

5.36 LOGON_METHOD - UAG Configuration Option

5.36.1 Description

The LOGON_METHOD option specifies whether the Batch Logon or Interactive Logon type will be used for all of the tasks executed by the Agent.

> **Note**
>
> This option is ignored if the SECURITY configuration option is set to **none**.

5.36.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	logon *option*				✓	

5.36.3 Values

option is the user's log on method.

Valid values for *option* are:

- **batch**
  Windows log on type is **batch**. A batch logon is provided to establish an execution environment for processes that execute on a user's behalf, but without that user's direct interaction. When this logon type is used, the user account must have the "Allow log on as a batch job" permission granted to it. Likewise, the account must not have the "Deny log on as a batch job" policy assigned to it.
- **interactive**
  Windows logon type is **interactive**. An interactive logon establishes an execution environment similar to one a user could expect to have when physically logged in to a workstation. When this logon type is used, the user account must have the "Allow log on locally" permission granted to it. Likewise, the account must not have the "Deny log on locally" policy assigned to it.

Default is interactive.

5.37 MAX_SSL_PROTOCOL - UAG configuration option

5.37.1 Description

The MAX_SSL_PROTOCOL option specifies the maximum SSL/TLS protocol level that will be negotiated and used for communications channels.

5.37.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	max_ssl_protocol *option*			✓	✓	

This option is NOT currently supported on HP-UX and z/OS

5.37.3 Values

option is the specification for the maximum SSL/TLS protocol level that will be supported.

- **TLS1_2**
  Maximum SSL/TLS protocol is TLS 1.2.
- **TLS1_3**
  Maximum SSL/TLS protocol is TLS 1.3.

Default is TLS1_2.

5.38 MESSAGE_LEVEL - UAG configuration option

5.38.1 Description

The MESSAGE_LEVEL option specifies the level of messages to write.

5.38.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	message_level *level*			✓	✓	✓

5.38.3 Values

level is the level of messages to write.

Valid values for *level* are:

- **trace**
  Writes trace messages used for diagnostic purposes (see #Trace Files).

Note

Use **trace** only as directed by Stonebranch, Inc. Customer Support.

- **audit**
  Writes audit, informational, warning, and error messages.
- **info**
  Writes informational, warning, and error messages.
- **warn**
  Writes warning and error messages.
- **error**
  Writes error messages only.

Default is info.

5.38.4 Trace Files

UNIX

The trace file is created in the directory **/var/opt/universal/trace**.

Windows

The trace file is created in the installation directory of Universal Automation Center Agent, which defaults to:

C:\Program Files\Universal\uag

z/OS

There are two possible destinations of the trace data:

1. If ddname **UNVTRMDL** is defined in the UBROKER started task procedure, a sequential data set is created using the data set allocated to UNVTRMDL as a model.

   The dynamically allocated trace data set name is **#HLQ.UBR.Dyymmdd.Thhmmss**, where:

   - **#HLQ** is the data set name allocated on the UNVTRMDL ddname.
   - **yymmdd** is the year, month, and day.
   - **hhmmss** is the hour, minute, second the data set was allocated.

     The amount of space allocated for trace data sets modeled after **UNVTRMDL** is based upon the TRACE_FILE_LINES configuration option and the record format of the model data set. If the model data set is fixed record format, the total amount of space measured in bytes is TRACE_FILE_LINES *LRECL. If the model data set is variable record format, the total amount of space measured in bytes is TRACE_FILE_LINES * 50 (50 is considered the average length of a trace file record).

     The number of cylinders is calculated from the total amount of space in bytes. The total number of cylinders is calculated base on a total of 16 extents being allocated.

     The formula is cylCount = (totalSize / 16) / 750000.

     The allocation unit is set to cylinders and the primary and secondary space allocation is set to cylCount (that is, SPACE=(CYL,(cylCount,cylCount),RLSE)).

2. If ddname **UNVTRMDL** is not defined in the UBROKER started task procedure, member name **UBROKER** is created in the PDS or PDS/E allocated to the UNVTRACE ddname.

Depending on the error condition being diagnosed, it is possible that the member name of the **UNVTRACE** PDS or PDS/E is not created. If this occurs, the **UNVTRMDL** ddname must be used to create a sequential data set name.

The records written to PDS and PDS/E members cannot be wrapped, so the TRACE_FILE_LINES limit has no effect on the maximum number of trace records written to the member.

5.39 MIN_SSL_PROTOCOL - UAG configuration option

5.39.1 Description

The MIN_SSL_PROTOCOL option specifies the minimum SSL/TLS protocol level that will be negotiated and used for communications channels.

5.39.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	min_ssl_protocol *option*			✓	✓	✓

5.39.3 Values

option is the specification for the minimum SSL/TLS protocol level that will be supported.

- **TLS1_0**
  Minimum SSL/TLS protocol is TLS 1.0.
- **TLS1_2**
  Minimum SSL/TLS protocol is TLS 1.2.
- **TLS1_3**

  > TLS 1.3 is NOT currently supported on HP-UX and z/OS

  Minimum SSL/TLS protocol is TLS 1.3.

Default is TLS1_2.

5.40 NETNAME - UAG configuration option

5.40.1 Description

The NETNAME option sets the default network ID of Universal Automation Center Agent (UAG).

5.40.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	netname *name*			✓	✓	✓

5.40.3 Values

name is the default network ID of UAG. It is a case sensitive value.

The default is **OPSAUTOCONF**.

> **Note**
>
> If *name* is **OPSAUTOCONF**, the ID would be requested from the Universal Controller after the first successful connection attempt.

5.41 OMS_SERVERS - UAG configuration option

5.41.1 Description

The OMS_SERVERS option specifies the port and network address of the Universal Message Service (OMS) server(s) used for network communication.

5.41.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	oms_servers *port@host*[, *port@host*...]			✓	✓	✓

5.41.3 Values

port is the TCP port on which the OMS server is listening. The default is **7878**.

host is the host name or IP address of the OMS server.

5.41.3.1 OMS Failover Configuration

OMS servers may be deployed in a High Availability (HA) cluster, in which there are two or more OMS servers. An HA cluster has one active OMS server and one or more inactive OMS servers. When the active OMS server fails, one of the inactive OMS servers becomes the new active OMS server. UAG will automatically failover to the new active member of the HA cluster.

An OMS server HA cluster is specified as a comma-separated list of OMS servers, where each OMS server specified in the list is a member of the same HA cluster. UAG will connect to the first OMS server in the list. If that OMS server connection fails, UAG will attempt to connect to the next OMS server in the list, and so on, until it has successfully connected. The first OMS server in the list is should be considered the primary OMS server and subsequent OMS servers in the list are backup OMS servers.

Do not specify OMS servers in the comma-separated list that are not part of the same HA cluster, otherwise OMS messages may be lost in the case of failover.

5.42 OTEL_ENABLE_TRACING - UAG configuration option

5.42.1 Description

The OTEL_ENABLE_TRACING option specifies whether UAG will export traces to the Opentelemetry collector.

> **Note**
>
> The value of this option will be propagated to and used by the Extension worker process.

5.42.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_enable_tracing *value*		✓	✓	

> **Note**
>
> This option is **NOT** available on:
>
> - Solaris
> - HP-UX
> - z/OS

5.42.3 Values

value is case-insensitive and must be either **YES** or **NO**.

Default is NO.

5.43 OTEL_EXPORT_METRICS - UAG configuration option

5.43.1 Description

The OTEL_EXPORT_METRICS option specifies whether UAG will export metrics to the Opentelemetry collector.

Exported Metrics

See Provided Metrics for the list of metrics exported by UAG.

Note

The value of this option will be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_export_metrics *value*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.43.2 Values

value is case-insensitive and must be either **YES** or **NO**.

Default is NO.

5.44 OTEL_METRICS_ENDPOINT - UAG configuration option

5.44.1 Description

The OTEL_METRICS_ENDPOINT option specifies the URL used to export UAG metric data using the OTLP/HTTP(S) protocol to the Opentelemetry Collector.

Note

For HTTPS connections, the URL must start with `https://`

Note

As of UA 7.5.0.0, only `OTLP/HTTP` protocol is supported. `OTLP/gRPC` is **NOT** supported.

Note

The value of this option will be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_metrics_endpoint *url*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.44.2 Values

url must be a properly formatted, according to Opentelemetry conventions.

Default is `http://localhost:4318`

5.45 OTEL_METRICS_EXPORT_INTERVAL - UAG configuration option

5.45.1 Description

The OTEL_METRICS_EXPORT_INTERVAL option specifies how often to export the metrics to the Opentelemetry Collector.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_metrics_export_interval *interval*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.45.2 Values

interval must be specified in seconds and must be greater than 0.

Default is `60` seconds (Opentelemetry Default).

5.46 OTEL_SERVICE_NAME - UAG configuration option

5.46.1 Description

The OTEL_SERVICE_NAME option sets the value of the `service.name` resource attribute used to identify UAG in traces and metrics.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_service_name *name*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.46.2 Values

Default is `uagsrv`

5.47 OTEL_SSL_CA_CERT_PATH - UAG configuration option

5.47.1 Description

The OTEL_SSL_CA_CERT_PATH option specifies the full path to the file containing one or more X.509 trusted certificates in PEM format. The certificate(s) will be used to validate the Opentelemetry Collector (server). This option should only be specified for secure, HTTPS endpoints (ignored for HTTP).

Note

To use the host platform's trust certificates instead, do NOT specify this option.

Note

The value of this option will be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_ssl_ca_cert_path *value*		✔	✔	

Note

This option is **NOT** available on:

- Solaris

- HP-UX
- z/OS

5.47.2 Values

value must be a fully-qualified path to the CA Certificate.

No default value is set.

5.48 OTEL_SSL_CLIENT_CERT_PATH - UAG configuration option

5.48.1 Description

The OTEL_SSL_CLIENT_CERT_PATH option specifies the full path to an X.509 certificate used to identify UAG to the Opentelemetry Collector. This option is only needed for HTTP connections where client authentication is set up in the Opentelemetry Collector.

Note

The value of this option will **NOT** be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_ssl_client_cert_path *value*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.48.2 Values

value must be a fully-qualified path to the client certificate.

No default value is set.

5.49 OTEL_SSL_CLIENT_KEY_PATH - UAG configuration option

5.49.1 Description

The OTEL_SSL_CLIENT_KEY_PATH option specifies the full path to the PEM formatted file containing the private key associated with the client certificate specified by the OTEL_SSL_CLIENT_CERT_PATH option. This option is only needed for HTTP connections where client authentication is set up in the Opentelemetry Collector.

Note

The value of this option will **NOT** be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_ssl_client_key_path *value*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.49.2 Values

value must be a fully-qualified path to the key.

No default value is set.

5.50 OTEL_SSL_INSECURE_SKIP_VERIFY - UAG configuration option

5.50.1 Description

The OTEL_SSL_INSECURE_SKIP_VERIFY option specifies whether to validate the Opentelemetry Collector's (server's) certificate against the locally configured CA certificate (specified by OTEL_CA_CERT_PATH option).

Note

The value of this option will **NOT** be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_ssl_insecure_skip_verify *value*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.50.2 Values

value is case-insensitive and must be either **YES** or **NO**.

Default is NO (Opentelemetry Collector's certificate will NOT be validated).

5.51 OTEL_TRACE_ENDPOINT - UAG configuration option

5.51.1 Description

The OTEL_TRACE_ENDPOINT option specifies the URL used to export UAG trace data using the OTLP/HTTP(S) protocol to the Opentelemetry Collector.

Note

For HTTPS connections, the URL must start with `https://`

Note

As of UA 7.5.0.0, only `OTLP/HTTP` protocol is supported. `OTLP/gRPC` is **NOT** supported.

Note

The value of this option will be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	otel_trace_endpoint *url*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.51.2 Values

url must be a properly formatted, according to Opentelemetry conventions.

Default is `http://localhost:4318`

5.52 OTEL_UIP_SERVICE_NAME - UAG configuration option

5.52.1 Description

The OTEL_UIP_SERVICE_NAME option sets the value of the `service.name` resource attribute used to identify an Extension worker process in traces and metrics.

Note

The value of this option will be propagated to and used by the Extension worker process.

Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS

Configuration File Keyword	otel_uip_service_name *name*		✓	✓	

Note

This option is **NOT** available on:

- Solaris
- HP-UX
- z/OS

5.52.2 Values

Default is `uip/${extension_name}`, where `${extension_name}` will be replaced with the actual extension name defined in `extension.yml`.

5.53 PDSE_SHARING - UAG configuration option

5.53.1 Description

The pdse_sharing option specifies whether UAG will allocate PDS/E datasets for output with DISP=SHR (yes) or DISP=OLD (no). Specify 'yes' if your system is using GRS to serialize datasets and one of the following is true: UAG is executing on a stand-alone z/OS system and PDS/E datasets will not be shared outside this system, or UAG is executing on a z/OS Sysplex and PDSESHARING(EXTENDED) has been specified in the IGDSMSxx member in SYS1.PARMLIB for all systems.

5.53.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	pdse_sharing *option*					✓

5.53.3 Values

Options:

- yes
- **no**

Default is **no.**

5.54 PROCESS_CANCEL_TIMEOUT - UAG configuration option

5.54.1 Description

The PROCESS_CANCEL_TIMEOUT option specifies the length of time that an OS task is given to complete its response to a CANCEL request received from Universal Controller.

If the task fails to terminate within the specified timeout period, UAG Server will forcefully terminate the task.

5.54.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	process_cancel_timeout *time*[**s**|**m**|**h**|**d**]		✓		

5.54.3 Values

time must be numeric, but a one-letter suffix is accepted to specify a time unit of (**s**)econds, (**m**)inutes, (**h**)ours, or (**d**)ays. If no time unit is specified, the default is seconds.

The following maximums are enforced:

- 2147483647 or 2147483647s
- 35791394m
- 596523h
- 24855d

Minute, hour, and day maximums are set to ensure that their value, when represented as a number of seconds, does not exceed 2147483647.

Default is 10 seconds.

5.55 PROXY_URL - UAG configuration option

5.55.1 Description

Specifies the proxy server address through which UAG Server's connection to OMS should be forwarded.

5.55.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	proxy_url *protocol://[[user]:password@]host[:port]*			✓	✓	✓

5.55.3 Values

protocol

Required. The protocol the proxy server should use to forward traffic from UAG Server to OMS.

As of this writing, **http** is the only supported protocol.

user

Optional. User name for proxy authentication.

This parameter has no default value.

password

Optional. The password for the account specified by the user parameter.

This parameter has no default value.

When specified, must be preceded by a colon (**:**). Any user account information must be separated from the host value with the @ symbol.

host

Required. The host name or IP address of the proxy server.

port

Optional. The port number upon which the proxy server accepts incoming connections.

The default value for this parameter is **80**.

5.55.4 Examples

1. Use an HTTP proxy server listening on TCP port 80 that does not require any credentials.

   proxy_url http://proxyserver.com/

2. Use an HTTP proxy server listening on TCP port **3128** that does not require any credentials.

   proxy_url http://proxyserver.com:3128/

3. Use an HTTP proxy server listing on port **3128** using a user ID of **proxyuser** whose password is **secret**.

   proxy_url http://proxyuser:secret@proxyserver.com:3128/

5.56 REQUEST_Z/OS_LICENSES - UAG configuration option

5.56.1 Description

The REQUEST_ZOS_LICENSES option specifies the number of z/OS Agent licenses to request from Universal Controller in a Sysplex environment.

Note

REQUEST_Z/OS_LICENSES is ignored for a secondary z/OS agent.

5.56.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	req_zos_lic *reserve*[,*additional*]					✓

5.56.3 Values

reserve is the number of licenses to reserve for this Sysplex group. The minimum value is 1.

additional specifies, optionally, the additional number of licenses that can be requested from the Controller on an as-needed basis. The minimum value is 0.

Default values are: 1,0

Added together, *reserve* and *additional* cannot exceed 32.

Note

In non-Sysplex environments, the values of *reserve* and *additional* are always 1,0.

No Default.

5.57 RERUN_LOAD_LIBRARY - UAG configuration option

5.57.1 Description

The RERUN_LOAD_LIBRARY option specifies the location of the Stonebranch Rerun Utility (UAGRERUN).

If no value is provided for this option, the load library in which the UAGRERUN module resides must be part of the z/OS LNKLST.

5.57.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	rerun_load_library *location*					✓

5.57.3 Values

location is the location of the Stonebranch Rerun Utility (UAGRERUN).

No Default.

5.58 RERUN_PROC_NAME - UAG configuration option

5.58.1 Description

Specifies the name of a JCL procedure that can optionally be used to replace the standard UAGRERUN step inserted into any job submitted by UAG. Use this procedure if customization of the UAGRERUN step is desired. A sample procedure named UAGRRPRC is provided in the SUNVSAMP installation library. If this parameter is coded, the named procedure must be copied into a JCL procedure library that is accessible to all jobs submitted by UAG.

5.58.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	rerun_proc_name *name*					✓

5.59 SECURITY - UAG configuration option

5.59.1 Description

The SECURITY option activates user security.

If SECURITY is activated, the remote command execution request must supply a local user ID and password. The command is started as that user.

If SECURITY is not activated, the user ID and password is not required from the remote request and the user's process is started with the same user ID as the remote agent.

5.59.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	security *option*			✓	✓	✓

5.59.3 Values

option is the specification for whether or not security is activated.

UNIX	Valid values for *option* are: • default Security is activated and uses UNIX default user authentication method. • inherit Universal Automation Center Agent will inherit the user account of the broker which started it. The user processes created as a result of task execution are started with the same user ID as that inherited from the Broker. • none Universal Automation Center Agent will inherit the user account of the broker which started it. The user processes created as a result of task execution are started with the same user ID as that inherited from the Broker. • pam Security is activated and use the Pluggable Authentication Modules (PAM) interface to provide user authentication. • trusted Security is activated and uses HP Trust Security authentication.
Windows	Valid values for *option* are: • default Security is activated and uses Windows authentication to verify user ID and password. • inherit Universal Automation Center Agent will inherit the user account of the broker which started it. The user processes created as a result of task execution are started with the same user ID as that inherited from the Broker. • none Universal Automation Center Agent will inherit the user account of the broker which started it. The user processes created as a result of task execution are started with the same user ID as that inherited from the Broker.

z/OS	Valid values for *option* are: • default Security is activated and uses z/OS SAF user authentication method. The user ID must have an OMVS segment. • inherit Universal Automation Center Agent will inherit the user account of the broker which started it. The user processes created as a result of task execution are started with the same user ID as that inherited from the Broker. • none Universal Automation Center Agent will inherit the user account of the broker which started it. The user processes created as a result of task execution are started with the same user ID as that inherited from the Broker.

Note

The inherit value replaces the none value. There are currently no plans to deprecate support for none, but new installs should use inherit instead of none.

5.59.3.1 Default Values

default	AIX, HP-UX, Windows, z/OS
pam	Linux, Solaris

5.60 SERVICE_TIMEOUT - UAG configuration option

5.60.1 Description

Specifies the idle time in seconds after which the Agent must drop the OMS connection and attempt to re-establish it. The default value for the option is 0 (do not terminate an idle OMS connection). The maximum value of the option is 604800 seconds (7 days).

5.60.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	service_timeout *value*		✓	✓	✓

5.60.3 Values

The maximum value of the option is 604800 seconds (7 days).
The default value for the option is 0 (do not terminate an idle OMS connection).

5.61 SSL_CIPHER_LIST - UAG configuration Option

5.61.1 Description

The SSL_CIPHER_LIST option specifies the SSL/TLS cipher suites acceptable for use by the SSL/TLS protocol.

The SSL/TLS protocol uses the cipher suites to specify which encryption and message authentication (or message digest) algorithms to use.

5.61.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	ssl_cipher_list *list*	✓		✓	✓	✓

5.61.3 Values

list is a comma-separated list of SSL/TLS cipher suites. The following table identifies the list of SSL/TLS cipher suites supported for this option.

The list is in default order, with the most preferred suite first and the least preferred suite last.

Cipher Suite	Description
AES256-GCM-SHA384	256-bit AES encryption in Galois Counter Mode, SHA-2 384-bit message digest.
AES256-SHA	256-bit AES encryption with SHA-1 message digest.
AES128-GCM-SHA256	128-bit AES encryption in Galois Counter Mode, SHA-2 256-bit message digest.
AES128-SHA	128-bit AES encryption with SHA-1 message digest.
ECDHE-RSA-AES256-GCM-SHA384	Ephemeral Elliptic Curve Diffie-Hellman Key Exchange, RSA authentication, 256-bit AES encryption in Galois Counter Mode, SHA-2 384-bit message digest.
ECDHE-ECDSA-AES256-GCM-SHA384	Ephemeral Elliptic Curve Diffie-Hellman Key Exchange, ECDSA authentication, 256-bit AES encryption in Galois Counter Mode, SHA-2 384-bit message digest.
ECDHE-RSA-AES128-GCM-SHA256	Ephemeral Elliptic Curve Diffie-Hellman Key Exchange, RSA authentication, 128-bit AES encryption in Galois Counter Mode, SHA-2 256-bit message digest.
ECDHE-ECDSA-AES128-GCM-SHA256	Ephemeral Elliptic Curve Diffie-Hellman Key Exchange, ECDSA authentication, 128-bit AES encryption in Galois Counter Mode, SHA-2 256-bit message digest.
RC4-SHA	128-bit RC4 encryption with SHA-1 message digest.
RC4-MD5	128-bit RC4 encryption with MD5 message digest.
DES-CBC3-SHA	128-bit Triple-DES encryption with SHA-1 message digest.

Cipher Suite	Description
DES-CBC-SHA	128-bit DES encryption with SHA-1 message digest. **Note** As of Universal Agent 6.7.0.0, DES-CBC-SHA is supported only on HP-UX. Additionally, any Agents on HP-UX that accept connections from, or attempt connections to, Agents on other platforms must be configured with at least one currently supported cipher suite besides DES-CBC-SHA. Therefore, those HP-UX Agents cannot be configured only with DES-CBC-SHA in their list of cipher suites.

5.62 SSL_CIPHER_SUITES - UAG configuration option

5.62.1 Description

The SSL_CIPHER_SUITES option specifies one or more **SSL/TLS 1.3 specific** cipher suites that are acceptable to use for network communications between UAG and OMS Server.

This option is specific to TLS 1.3. To configure ciphers for TLS 1.2 and earlier, see the `ssl_cipher_list` option.

5.62.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	ssl_cipher_suites *ciphers*			✓	✓	

The option is NOT currently supported on HP-UX

5.62.3 Value

ciphers is a comma-separated list of SSL/TLS 1.3 specific cipher suites. The following table identifies the list of SSL/TLS cipher suites supported for this option.

The list is in default order, with the most preferred suite first and the least preferred suite last.

Cipher Suite	Description
TLS_AES_256_GCM_SHA384	256-bit AES encryption in Galois Counter Mode, SHA-2 384-bit message digest
TLS_CHACHA20_POLY1305_SHA256	256-bit CHACHA encryption with POLY1305 message authentication, SHA-2 256-bit message digest
TLS_AES_128_GCM_SHA256	128-bit AES encryption in Galois Counter Mode, SHA-2 256-bit message digest

5.63 SSL_CLIENT_AUTH - UAG configuration Option

5.63.1 Description

The SSL_CLIENT_AUTH option enables client's certificate authentication from OMS server if the SSL/TLS protocol is used for network communication.

By default, OMS server does not authenticate client's certificate.

5.63.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	ssl_client_auth *list*			✓	✓	✓

5.63.3 Values

option specifies whether or not client's certificate authentication when the SSL/TLS protocol is used.

Valid values for *option* are:

- **yes** - client's certificate is authenticated.
- **no** - client's certificate is not authenticated.

Default is **no**.

5.64 SSL_SERVER_AUTH - UAG configuration option

5.64.1 Description

The SSL_SERVER_AUTH option enables OMS server certificate authentication if the SSL/TLS protocol is used for network communication.

By default, UAG does not authenticate the OMS server certificate.

5.64.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	ssl_server_auth *option*			✓	✓	✓

5.64.3 Values

option specifies whether or not OMS server certificate authentication when the SSL/TLS protocol is used.

Valid values for *option* are:

- **yes**
  OMS server certificate is authenticated.
- **no**
  OMS server certificate is not authenticated.

Default is **no**.

5.65 TASK_RETRY_COUNT - UAG configuration option

5.65.1 Description

The TASK_RETRY_COUNT option specifies the number of attempts to retry a task, in an interval specified by the TASK_RETRY_INTERVAL configuration option, before the task goes to the Failed status.

5.65.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	task_retry_count *number*			✓	✓	

5.65.3 Values

number is the number of retry attempts to make before the task goes to the Failed status.

- If *number* is 0 or is not specified, the feature is disabled and task execution behaves as usual.
- If *number* is >0, every failure to start a task causes it to be rerun.

5.66 TASK_RETRY_INTERVAL - UAG configuration option

5.66.1 Description

The TASK_RETRY_INTERVAL option specifies the number of seconds that will elapse between a failed start task retry attempt and the retry of that start task attempt.

5.66.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	task_retry_interval *seconds*			✓	✓	

5.66.3 Values

second is the number of seconds that will elapse between a failed start task retry attempt and the retry of that start task attempt.

5.67 TMP_DIRECTORY - UAG configuration option

5.67.1 Description

The TMP_DIRECTORY option specifies the directory that Universal Automation Center Agent (UAG) uses for temporary files.

z/OS

TMP_DIRECTORY specifies the name of a z/OS UNIX directory.

5.67.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	tmp_directory *directory*			✓	✓	✓

5.67.3 Values

directory is the name of the directory.

A fully qualified path name is recommended.

5.67.3.1 Defaults

UNIX	/var/opt/universal/tmp
Windows	..\tmp
z/OS	/tmp

5.68 TRACE_DIRECTORY - UAG configuration option

5.68.1 Description

The TRACE_DIRECTORY option specifies the directory that Universal Automation Center Agent (UAG) uses for trace files (MESSAGE_LEVEL option value is set to **trace**).

5.68.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	trace_directory *directory*			✓	✓	

5.68.3 Values

directory is the name of the directory for trace files.

Relative path names are relative to the UAG installation directory.

Full path names are recommended.

5.68.3.1 Defaults

Windows	C:\Program Files\Universal\uag.
UNIX	/var/opt/universal/trace.

5.69 TRACE_FILE_LINES - UAG configuration option

5.69.1 Description

The TRACE_FILE_LINES option specifies the maximum number of lines to write to the trace file.

A trace file is generated when the MESSAGE_LEVEL option is set to **trace**. The trace file will wrap around when the maximum number of lines has been reached and start writing trace entries after the trace header lines.

(The average size of a trace file line is 50 characters.)

5.69.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	trace_file_lines *lines*			✓	✓	✓

5.69.3 Values

lines is the maximum number of lines to write to the trace file.

Default is 100,000. (If space is limited in the trace file directory, set *lines* to a smaller value.)

5.70 TRACE_TABLE - UAG configuration option

5.70.1 Description

The TRACE_TABLE option specifies the size of a wrap-around trace table maintained in memory.

The trace table is written to a file / data set when the program ends under the conditions specified in this option. Tracing is activated, and a trace file is generated, when the MESSAGE_LEVEL option is set to **trace**.

5.70.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	trace_table *size, condition*			✓	✓	✓

5.70.3 Values

size is the size (in bytes) of the trace table.

The size can be suffixed with either of the following characters:

- **M** indicates that the size is specified in megabytes
- **K** indicates that the size is specified in kilobytes

For example, *50M* indicates that 50 X 1,048,576 bytes of memory is allocated for the trace table.

> **Note**
>
> If *size* is **0**, the trace table is not used.

Default is 0.

condition is the condition under which the trace table is written.

Possible values for *condition* are:

- **error**
  Write the trace table if the program ends with a non-zero exit code.
- **always**
  Write the trace table when the program ends regardless of the exit code.
- **never**
  Never write the trace table.

Default is never.

5.71 TRANSIENT - UAG configuration option

5.71.1 Description

The TRANSIENT option specifies whether to register the Agent as a transient Agent or a regular, persistent Agent.

Note

This option is available only for Linux systems.

5.71.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	transient *option*			✓		

5.71.3 Values

Valid values are:

- **yes**
  Agent is registered as a transient Agent.
- **no**
  Agent is registered as a regular, persistent Agent.

Default is no.

5.72 TXTDEBUG - UAG configuration option

5.72.1 Description

The TXTDEBUG option specifies whether to enable or disable additional diagnostics messages.

Note

Since the use of TXTDEBUG could affect performance adversely, we recommended that it be used only by Technical Support.

5.72.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	txtbug *option*			✓	✓	✓

5.72.3 Values

Valid values are:

- **Y**
  Enable additional diagnostic messages.
- **N**
  Disable additional diagnostic messages.

Default is N.

5.73 ZOS_JOB_SYSAFF - UAG configuration option

5.73.1 Description

The ZOS_JOB_SYSAFF option instructs UAG to add a SYSAFF keyword to the JCL JOB statement of any job it submits.

> **Note**
>
> The ZOS_JOB_SYSAFF and ZOS_JOB_SYSTEM configuration options are mutually exclusive. If both options are provided, the last one coded will take precedence.

5.73.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	zos_job_sysaff *value*				✓

5.73.3 Values

The value coded is expected to conform to the JCL syntax of the JOB statement SYSAFF keyword.

If the JOB statement already contains either a SYSTEM or SYSAFF keyword, UAG will leave the current value in place.

If the JCL contains a /*JOBPARM SYSAFF=, /*ROUTE XEQ or /*XEQ statement (JES2), or a //*ROUTE XEQ statement (JES3), no SYSTEM or SYSAFF keyword will be added to the JOB statement.

Default: none.

5.74 ZOS_JOB_SYSTEM - UAG configuration option

5.74.1 Description

The ZOS_JOB_SYSTEM option instructs UAG to add a SYSTEM keyword to the JCL JOB statement of any job it submits.

> **Note**
>
> The ZOS_JOB_SYSTEM and ZOS_JOB_SYSAFF configuration options are mutually exclusive. If both options are provided, the last one coded will take precedence.

5.74.2 Usage

Method	Syntax	IBM i	UNIX	Windows	z/OS
Configuration File Keyword	zos_job_system *value*				✓

5.74.3 Values

The value coded is expected to conform to the JCL syntax of the JOB statement SYSTEM keyword.

If the JOB statement already contains either a SYSTEM or SYSAFF keyword, UAG will leave the current value in place.

If the JCL contains a /*JOBPARM SYSAFF=, /*ROUTE XEQ or /*XEQ statement (JES2), or a //*ROUTE XEQ statement (JES3), no SYSTEM or SYSAFF keyword will be added to the JOB statement.

Default: none.

6 Universal Automation Center Agent Component Definition Options

6.1 Overview

This page provides links to detailed information about the options that comprise Universal Automation Center Agent (UAG) component definitions.

The options are listed alphabetically, without regard to any specific operating system.

6.2 Component Definition Options Information

For each component definition option, these pages provide the following information.

6.2.1 Description

Describes the option and how it is used.

6.2.2 Usage

Provides a table of the following information:

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Component Definition Keyword	<Format / Value>					

6.2.2.1 Method

Identifies the method used for specifying a UAG component definition option:

- Component Definition Keyword

6.2.2.2 Syntax

Identifies the syntax of the method used to specify the option:

- Format: Specific characters that identify the option.
- Value: Type of value(s) to be supplied for this method.

6.2.2.3 (Operating System)

Identifies the operating systems for which the method of specifying the option is valid:

- IBM i

- HP NonStop
- UNIX
- Windows
- z/OS

6.2.3 Values

Identifies all possible values for the specified value type.

Defaults are identified in **bold type**.

6.3 Component Definition Options List

The following table identifies all of the options that can comprise a UAG component definition. Each **Option Name** is a link to detailed information about that option.

Option Name	Description
AUTOMATICALLY_START	Specification for whether or not the UAG Server starts automatically when Universal Broker is started.
COMPONENT_NAME	Name by which the clients know the UAG Server.
CONFIGURATION_FILE *	Name of the UAG Server configuration file.
RESTART	Specification for whether or not the UAG Server should be restarted if it ends.
RESTART_CONDITIONS	Exit conditions criteria for which the UAG server is considered eligible for restart.
RESTART_DELAY	Number of seconds to wait before restarting the UAG Server.
RESTART_MAX_FREQUENCY	Maximum frequency the UAG Server can be restarted.
RUNNING_MAXIMUM	Maximum number of UAG Servers that can run simultaneously.
START_COMMAND *	Program name of the UAG Server.
WORKING_DIRECTORY *	Directory used as the working directory of the UAG Server.
* These options are required in all component definitions.	

6.4 AUTOMATICALLY_START - UAG Component Definition option

6.4.1 Description

The AUTOMATICALLY_START option specifies whether or not the Universal Automation Center Agent (UAG) Server starts automatically when the Universal Broker is started.

Note

AUTOMATICALLY_START is optional in a component definition.

6.4.2 Usage

Method	Parameter / Value	IBM i	HP NonStop	UNIX	Windows	z/OS
Component Definition Keyword	auto_start *option*			✓	✓	✓

6.4.3 Values

option is the specification for how the UAG Server is started.

The only valid value for *option* is:

- **yes**
  UAG Server is started automatically when Universal Broker is started.

6.5 COMPONENT_NAME - UAG Component Definition option

6.5.1 Description

The COMPONENT_NAME option specifies the name of the Universal Automation Center Agent (UAG) Server.

Component start requests refer to UAG Server by this name.

Note

COMPONENT_NAME is optional in a component definition. If it is not specified, the file name is used as the component name.

6.5.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Component Definition Keyword	component_name *name*			✓	✓	✓

6.5.3 Values

name is the name of the UAG server.

There is only one valid value for *name*:

- **uag**
  (This is the name of the UAG Server component definition file / member.)

This name should not be changed.

6.6 CONFIGURATION_FILE - UAG Component Definition option

6.6.1 Description

The CONFIGURATION_FILE option specifies the name of the Universal Automation Center Agent (UAG) configuration file.

> **Note**
>
> CONFIGURATION_FILE is required in a component definition.

6.6.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Component Definition Keyword	configuration_file *member* **or** configuration_file *file*			✓	✓	✓

6.6.3 Values

member / *file* is the name of the configuration member / file.

UNIX	Full path name of the configuration file. The file name can be any valid file name. The installation default is **/etc/universal/uags.conf**.
Windows	Full path name of the configuration file. The file name can be any valid file name. The installation default is **c:\Documents and Settings\All Users\Application Data\Universal\conf\uags.conf**.
z/OS	Member name of the component configuration file in the **UNVCONF** library allocated to the Universal Broker ddname **UNVCONF**. The installation default is **UAGCFG00**.

6.7 RESTART - UAG Component Definition option

6.7.1 Description

The RESTART option specifies whether or not the Universal Automation Center Agent (UAG) Server should be restarted if it ends.

> **Note**
>
> RESTART is optional in a component definition.

The UAG Server is restarted when the following conditions are met:

1. Universal Broker is not in shutdown mode.
2. UAG Server has not been stopped by Universal Broker, Universal Control, or Universal Enterprise Controller. This is considered a controlled shutdown.
3. RESTART option value is **yes**.
4. UAG Server's exit conditions must meet one of the values specified by the RESTART_CONDITIONS option.
5. UAG Server must not have been restarted more than specified by the RESTART_MAX_FREQUENCY option.

6.7.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	restart *options*			✓	✓	✓

6.7.3 Values

options is the specification for whether or not the UAG Server should be restarted.

Valid values for *options* are:

- **yes**
  UAG Server should be restarted if it meets the restart criteria.
- **no**
  UAG Server should not be restarted.

Default is no.

6.8 RESTART_CONDITIONS - UAG Component Definition option

6.8.1 Description

The RESTART_CONDITIONS option specifies the exit conditions of the UAG Server for which it should be considered eligible for restart.

Note

RESTART_CONDITIONS is optional in a component definition.

If the exit conditions of the UAG Server do not meet the criteria, it will not be restarted.

6.8.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	restart_conditions *conditions*			✓	✓	✓

6.8.3 Values

conditions is a comma-separated list of exit conditions.

The exit conditions names are based on the Universal Agent return codes. Category names are used instead of numeric values, as the exit code numeric value may not be consistent across all platforms.

The exit conditions are:

ABNORMAL	UAG Server ended abnormally due to a UNIX signal, Windows Exception, z/OS ABEND, etc.
SUCCESS	UAG Server ended normally with exit code 0.
WARN	UAG Server ended normally with a warning exit code.
ERROR	UAG Server ended normally with an error exit code.
FATAL	UAG Server ended normally with a fatal exit code.
CONFIG	UAG Server ended normally with a configuration error exit code.
SECURITY	UAG Server ended normally with a security related exit code.
NETWORK	UAG Server ended normally with a network related exit code.

SHUTDOWN	UAG Server ended normally with a shutdown related exit code.
LICENSE	UAG Server ended normally with a license violation related exit code.
ALL	All of the above.

Default is ABNORMAL.

6.9 RESTART_DELAY - UAG Component Definition option

6.9.1 Description

The RESTART_DELAY option specifies the number of seconds to wait from the time the Universal Broker detects that the UAG Server has ended until Universal Broker restarts it.

> **Note**
>
> RESTART_DELAY is optional in a component definition.

6.9.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	restart_delay *seconds*			✓	✓	✓

6.9.3 Values

seconds is the number of seconds to wait.

Default is 5.

6.10 RESTART_MAX_FREQUENCY - UAG Component Definition option

6.10.1 Description

The RESTART_MAX_FREQUENCY option specifies the maximum frequency in which the UAG Server can be restarted in a specific time interval.

Note

RESTART_MAX_FREQUENCY is optional in a component definition.

If the UAG Server becomes eligible for restart but exceeds the maximum restart frequency, it will not be restarted.

6.10.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Configuration File Keyword	restart_max_frequency *number/interval*			✓	✓	✓

6.10.3 Values

number is the maximum number of restarts.

interval is the time interval in which the specified maximum number of restarts (*number*) is allowed.

Valid values for interval are **week**, **day**, **hour**, and **minute**.

Default is 2 / day.

6.11 RUNNING_MAXIMUM - UAG Component Definition option

6.11.1 Description

The RUNNING_MAXIMUM option specifies the maximum number of Universal Automation Center Agent (UAG) Servers that can run simultaneously.

If this maximum number is reached, any command received to start a UAG Server is rejected.

Note

RUNNING_MAXIMUM is optional in a component definition.

6.11.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Component Definition Keyword	running_max *maximum*			✓	✓	✓

6.11.3 Values

maximum is the maximum number of UAG Servers that can run simultaneously.

Default is 1.

> **Note**
>
> If you specify 0 for *maximum*, the default (1) will be used. To use 0 for the maximum number of servers, specify -1 or less for *maximum*.

6.12 START_COMMAND - UAG Component Definition option

6.12.1 Description

The START_COMMAND option specifies the full path name (member name for z/OS) of the UAG Server program.

Optionally, START_COMMAND also can specify command line options.

> **Note**
>
> START_COMMAND is required in a component definition.

6.12.2 Usage

Method	Syntax	IBMi	HPNonStop	UNIX	Windows	z/OS
Component Definition Keyword	start_command *member* **or** start_command *name[options]*			✓	✓	✓

6.12.3 Values

member / *name* is the full path name of the UAG Server program.

options is the optional list of command line options.

UNIX	*name* is the full path name of the UAG Server program.
Windows	*name* is the full path name of the UAG Server program. This name is defined at installation; it is not modifiable from the Universal Configuration Manager.
z/OS	*member* is the program object of the UAG Server. The program object must be in the Universal Broker's search order for loading program objects. The default location is the SUNVLOAD library allocated to the Universal Broker's STEPLIB ddname. Alternatively, starting with Universal Broker 5.1.0.4, *member* can be the fully specified path of a USS external link to the UAG Server program. The external link must be owned by UID 0. *options* is not a valid value.

6.13 WORKING_DIRECTORY - UAG Component Definition option

6.13.1 Description

The WORKING_DIRECTORY option specifies the full path name used as the working directory of the Universal Automation Center Agent (UAG) Server.

Note

WORKING_DIRECTORY is required in a component definition.

6.13.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Component Definition Keyword	working_directory *directory*			✓	✓	✓

6.13.3 Values

directory is the full path name of the working directory.

Default is (.).

Caution

Do not change this directory.

UNIX and Windows

directory is the full path name of the directory that the UAG Server uses as its working directory.

z/OS

directory is the HFS directory name that the UAG Server uses as its working directory.

7 Universal Automation Center Agent UACL Entries

7.1 Introduction

This page provides links to detailed information on the Universal Access Control List (UACL) entries available for use with Universal Automation Center Agent (UAG).

The UACL entries are listed alphabetically, without regard to any specific operating system.

7.2 UACL Entries Information

For each UACL entry, these pages provide the following information.

7.2.1 Description

Describes the UACL entry and how it is used.

7.2.2 Usage

Provides a table of the following information:

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
UACL File Keyword	<Type / Rule>					

7.2.2.1 Method

Identifies the method used for specifying a UACL entry:

- UACL FIle Keyword

7.2.2.2 Syntax

Identifies the syntax of the method used for a UACL entry:

- Type: Universal Agent component to which the rule applies.
- Rule: Client's identity, request to which the entry pertains, and security attributes that the entry enforces.

7.2.2.3 (Operating System)

Identifies the operating systems for which the method of specifying the UACL entry is valid:

- IBM i

- HP NonStop
- UNIX
- Windows
- z/OS

7.2.3 Values

Identifies all possible values for the fields in a UACL entry rule.

Defaults are identified in **bold type**.

7.3 UACL Entries List

The following table identifies all UAG UACL Entries. Each **UACL Entry Name** is a link to detailed information about that option.

UACL Entry Name	Description
UAG_WORK_REQUEST	Allows or denies access to a task execution request and if allowed, specifies whether or not user authentication is performed.

7.4 UAG_WORK_REQUEST - UAG UACL Entry

7.4.1 Description

A UAG_WORK_REQUEST UACL entry either allows or denies access to a task execution request and if allowed, specifies whether or not user authentication is performed.

The search for a UAG_WORK_REQUEST entry is based on the local user identifier with which the task is requested to execute. The first UACL entry found that matches the request will be used. If no match is found, the request is allowed to execute and the user account, if provided, is authenticated.

7.4.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
UACL File Keyword	uag_work_request *local_user,access,auth*			✓	✓	✓

7.4.3 Values

The local_user is the local user identifier specified in the Universal Agent task credentials. Generic masking is supported for the value.

See UACL Entries for more information on generic masking support.

Valid values for *access* are:

- **deny** - Universal Agent request to execute the task is denied.
- **allow** - Universal Agent request to execute the task is allowed.

Valid values for *auth* are:

- **auth** - User authentication is performed.
- **noauth** - User authentication is not performed. The task will execute with the requested user identifier without authenticating the user account.

Windows

The **noauth** value is not valid.