

# **Universal Enterprise Controller 7.7.x Reference Guide**

Universal Agent 7.7.x

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# Table of Contents

1	Overview .....	17
1.1	Alerts.....	17
2	UEC System.....	18
3	UEC System Components .....	19
3.1	Universal Event Subsystem.....	19
3.2	UECLoad Utility.....	19
3.3	Universal Enterprise Controller Client Applications (for Windows).....	19
4	Detailed Information .....	21
5	Universal Enterprise Controller Examples .....	22
6	Universal Enterprise Controller - Controlled Information .....	23
6.1	Overview .....	23
6.2	UEC-Maintained Information.....	23
6.2.1	Users.....	23
6.2.2	Agents.....	24
6.2.3	SAP Systems.....	24
6.2.4	Groups .....	24
6.3	UEC-Monitored Information .....	24
6.3.1	Alerts.....	24
6.3.2	Jobs .....	25
6.3.3	Files.....	25
6.3.4	Systems.....	25
7	Polling.....	26
7.1	Agent Polling .....	26
7.2	SAP System Polling .....	26
8	Universal Enterprise Controller for z/OS .....	28
8.1	Overview .....	28
8.2	JCL Procedure.....	28
8.3	DD Statements used in JCL Procedure .....	29
8.4	Configuration Options .....	29

8.5	Command Line Syntax.....	31
9	Universal Enterprise Controller for Windows .....	33
9.1	Overview .....	33
9.2	Configuration Options .....	33
10	Universal Enterprise Controller Configuration Options .....	35
10.1	Overview .....	35
10.2	Configuration Options Information.....	35
10.2.1	Description .....	35
10.2.2	Usage.....	35
10.2.3	Values .....	36
10.2.4	<Additional Information> .....	36
10.3	Configuration Options List .....	36
10.4	BKR_QUERIES_PER_THREAD - UEC configuration option.....	38
10.4.1	Description .....	38
10.4.2	Usage.....	39
10.4.3	Values .....	39
10.5	BKR_QUERY_THREADS - UEC configuration option .....	39
10.5.1	Description .....	39
10.5.2	Usage.....	40
10.5.3	Values .....	40
10.6	BKR_QUERY_TIMEOUT - UEC configuration option.....	40
10.6.1	Description .....	40
10.6.2	Usage.....	40
10.6.3	Values .....	41
10.7	BROKER_STATUS_ALERTS_AT_STARTUP - UEC configuration option.....	41
10.7.1	Description .....	41
10.7.2	Usage.....	41
10.7.3	Values .....	41
10.8	CA_CERTIFICATES - UEC configuration option.....	42
10.8.1	Description .....	42
10.8.2	Usage.....	42

10.8.3	Values .....	42
10.9	CERTIFICATE - UEC configuration option.....	42
10.9.1	Description .....	42
10.9.2	Usage.....	43
10.9.3	Values .....	43
10.10	CERTIFICATE_REVOCAATION_LIST - UEC configuration option .....	43
10.10.1	Description .....	43
10.10.2	Usage.....	43
10.10.3	Values .....	43
10.11	CODE_PAGE - UEC configuration option .....	44
10.11.1	Description .....	44
10.11.2	Usage.....	44
10.11.3	Values .....	44
10.12	COMM_SESSIONS_PER_THREAD - UEC configuration option.....	44
10.12.1	Description .....	44
10.12.2	Usage.....	45
10.12.3	Value .....	45
10.13	COMM_THREADS - UEC configuration option .....	45
10.13.1	Description .....	45
10.13.2	Usage.....	45
10.13.3	Value .....	45
10.14	COMMIT_COMPLETE_EXPIRATION - UEC configuration option .....	46
10.14.1	Description .....	46
10.14.2	Usage.....	46
10.14.3	Value .....	46
10.15	COMMIT_INCOMPLETE_EXPIRATION - UEC configuration option .....	47
10.15.1	Description .....	47
10.15.2	Usage.....	47
10.15.3	Value .....	47
10.16	CONVERT - UEC configuration option .....	48
10.16.1	Description .....	48

10.16.2	Usage.....	48
10.16.3	Value.....	48
10.17	DELETE_EVENTS_ON_BROKER - UEC configuration option .....	48
10.17.1	Description .....	48
10.17.2	Usage.....	48
10.17.3	Value.....	49
10.18	DNS_CACHE_TIMEOUT - UEC configuration option .....	49
10.18.1	Description .....	49
10.18.2	Usage.....	49
10.18.3	Value.....	49
10.19	DNS_POLLING_INTERVAL - UEC configuration option.....	49
10.19.1	Description .....	49
10.19.2	Usage.....	50
10.19.3	Value.....	50
10.20	HELP - UEC configuration option .....	50
10.20.1	Description .....	50
10.20.2	Usage.....	50
10.20.3	Values.....	50
10.21	HOSTNAME_RETRY_COUNT - UEC configuration option.....	51
10.21.1	Description .....	51
10.21.2	Usage.....	51
10.21.3	Values .....	51
10.22	JOB_THREADS - UEC configuration option.....	51
10.22.1	Description .....	51
10.22.2	Usage.....	51
10.22.3	Value.....	52
10.23	KEEP_MONITOR_EVENTS - UEC configuration option .....	52
10.23.1	Description .....	52
10.23.2	Usage.....	52
10.23.3	Values .....	52
10.24	LOG_MESSAGES - UEC configuration option.....	53

10.24.1	Description .....	53
10.24.2	Usage.....	53
10.24.3	Value .....	53
10.25	LOG_MESSAGES_DIRECTORY - UEC configuration option .....	54
10.25.1	Description .....	54
10.25.2	Usage.....	54
10.25.3	Value .....	54
10.26	LOGIN_ATTEMPTS - UEC configuration option .....	54
10.26.1	Description .....	54
10.26.2	Usage.....	54
10.26.3	Values .....	55
10.27	MESSAGE_DESTINATION - UEC configuration option .....	55
10.27.1	Description .....	55
10.27.2	Usage.....	55
10.27.3	Value .....	55
10.28	MESSAGE_LANGUAGE - UEC configuration option.....	56
10.28.1	Description .....	56
10.28.2	Usage.....	56
10.28.3	Values .....	56
10.29	MESSAGE_LEVEL - UEC configuration option.....	57
10.29.1	Description .....	57
10.29.2	Usage.....	57
10.29.3	Values .....	57
10.30	MONITOR_EVENT_EXPIRATION - UEC configuration option.....	58
10.30.1	Description .....	58
10.30.2	Usage.....	58
10.30.3	Values .....	58
10.31	MOUNT_POINT - UEC configuration option .....	59
10.31.1	Description .....	59
10.31.2	Usage.....	59
10.31.3	Values .....	59

10.32	MOUNT_POINT_MODE - UEC configuration option .....	59
10.32.1	Description .....	59
10.32.2	Usage .....	60
10.32.3	Values .....	60
10.33	PERSISTENT_EVENT_EXPIRATION - UEC configuration option .....	61
10.33.1	Description .....	61
10.33.2	Usage .....	61
10.33.3	Value .....	61
10.34	POLLING_INTERVAL - UEC configuration option .....	62
10.34.1	Description .....	62
10.34.2	Usage .....	62
10.34.3	Value .....	62
10.35	PRIVATE_KEY - UEC configuration option .....	62
10.35.1	Description .....	62
10.35.2	Usage .....	63
10.35.3	Values .....	63
10.36	PRIVATE_KEY_PWD - UEC configuration option .....	63
10.36.1	Description .....	63
10.36.2	Usage .....	63
10.36.3	Values .....	64
10.37	SAF_KEY_RING - UEC configuration option .....	64
10.37.1	Description .....	64
10.37.2	Usage .....	64
10.37.3	Values .....	64
10.38	SAF_KEY_RING_LABEL - UEC configuration option .....	65
10.38.1	Description .....	65
10.38.2	Usage .....	65
10.38.3	Values .....	65
10.39	SAP_POLLING_INTERVAL - UEC configuration option .....	65
10.39.1	Description .....	65
10.39.2	Usage .....	65

10.39.3	Values .....	66
10.40	SERVICE_IP_ADDRESS - UEC configuration option .....	66
10.40.1	Description .....	66
10.40.2	Usage .....	66
10.40.3	Values .....	66
10.41	SERVICE_PORT - UEC configuration option .....	67
10.41.1	Description .....	67
10.41.2	Usage .....	67
10.41.3	Values .....	67
10.42	SSL_CIPHER_LIST - UEC configuration option.....	67
10.42.1	Description .....	67
10.42.2	Usage .....	67
10.42.3	Values .....	68
10.43	SSL_IMPLEMENTATION - UEC configuration option.....	68
10.43.1	Description .....	68
10.43.2	Usage .....	69
10.43.3	Values .....	69
10.44	TMP_DIRECTORY - UEC configuration option.....	69
10.44.1	Description .....	69
10.44.2	Usage .....	69
10.44.3	Values .....	69
10.45	TRACE_DIRECTORY - UEC configuration option .....	70
10.45.1	Description .....	70
10.45.2	Usage .....	70
10.45.3	Values .....	70
10.46	TRACE_FILE_LINES - UEC configuration option.....	70
10.46.1	Description .....	70
10.46.2	Usage .....	71
10.46.3	Values .....	71
10.47	TRACE_TABLE - UEC configuration option.....	71
10.47.1	Description .....	71

10.47.2	Usage.....	71
10.47.3	Values.....	72
10.48	UNIX_DB_DATA_SET - UEC configuration option.....	72
10.48.1	Description.....	72
10.48.2	Usage.....	73
10.48.3	Values.....	73
10.49	UPDATE_INTERVAL - UEC configuration option.....	73
10.49.1	Description.....	73
10.49.2	Usage.....	73
10.49.3	Values.....	73
10.50	USER_AUTHENTICATION_METHOD - UEC configuration option.....	74
10.50.1	Description.....	74
10.50.2	Usage.....	74
10.50.3	Values.....	74
10.51	VERSION - UEC configuration option.....	74
10.51.1	Description.....	74
10.51.2	Usage.....	74
10.51.3	Values.....	75
11	Universal Enterprise Controller Additional Information.....	76
11.1	Overview.....	76
11.2	Character Code Pages - UEC.....	76
11.3	UTT Files - UEC.....	78
12	Universal Enterprise Controller Troubleshooting.....	80
12.1	Overview.....	80
12.2	Java Under Windows.....	80
12.2.1	Java Compatibility.....	80
12.2.2	Known Problems.....	80
12.3	Java Under Linux.....	81
12.3.1	Java Compatibility.....	81
12.3.2	Known Problems.....	81
12.4	Java Under Mac OS X.....	81

12.4.1	Java Compatibility .....	81
12.5	UEC Problems .....	81
12.5.1	UEC Incorrectly Reports a Universal Broker as Unreachable .....	81
13	UECLoad Utility.....	82
13.1	Overview .....	82
13.2	Detailed Information .....	82
13.3	UECLoad for zOS.....	82
13.3.1	JCL .....	82
13.4	UECLoad Configuration .....	83
13.4.1	Overview .....	84
13.4.2	Configuration Source.....	84
13.4.3	Configuration Option Categories .....	84
13.5	UECLoad Command Line Syntax .....	87
13.5.1	Command Line Syntax.....	87
14	UECLoad Configuration Options .....	88
14.1	UECLoad Configuration Options.....	88
14.2	Configuration Options Information.....	88
14.2.1	Description .....	88
14.2.2	Usage.....	88
14.2.3	Values .....	89
14.2.4	<Additional Information>.....	89
14.3	Configuration Options List .....	90
14.4	ADD - UECLoad configuration option.....	91
14.4.1	Description .....	91
14.4.2	Usage.....	91
14.4.3	Values .....	91
14.5	ARCFILE - UECLoad configuration option .....	91
14.5.1	Description .....	91
14.5.2	Usage.....	92
14.5.3	Values .....	92
14.6	BROKER_DEFFILE - UECLoad configuration option.....	92

14.6.1	Description .....	92
14.6.2	Usage.....	92
14.6.3	Values .....	93
14.7	BROKER_DESCRIPTION - UECLoad configuration option .....	93
14.7.1	Description .....	93
14.7.2	Usage.....	93
14.7.3	Values .....	93
14.8	BROKER_HOST - UECLoad configuration option .....	94
14.8.1	Description .....	94
14.8.2	Usage.....	94
14.8.3	Values .....	94
14.9	BROKER_NAME - UECLoad configuration option .....	94
14.9.1	Description .....	94
14.9.2	Usage.....	94
14.9.3	Values .....	95
14.10	BROKER_PORT - UECLoad configuration option .....	95
14.10.1	Description .....	95
14.10.2	Usage.....	95
14.10.3	Values .....	95
14.11	CODE_PAGE - UECLoad configuration option.....	96
14.11.1	Description .....	96
14.11.2	Usage.....	96
14.11.3	Values .....	96
14.12	COMMAND_FILE_ENCRYPTED - UECLoad configuration option.....	96
14.12.1	Description .....	96
14.12.2	Usage.....	97
14.12.3	Values .....	97
14.13	COMMAND_FILE_PLAIN - UECLoad configuration option .....	97
14.13.1	Description .....	97
14.13.2	Usage.....	98
14.13.3	Values .....	98

14.14	DELETE - UECLoad configuration option.....	98
14.14.1	Description .....	98
14.14.2	Usage.....	98
14.14.3	Values .....	99
14.15	ENCRYPTION_KEY - UECLoad configuration option .....	99
14.15.1	Description .....	99
14.15.2	Usage.....	99
14.15.3	Values .....	99
14.16	END_TIME - UECLoad configuration option .....	100
14.16.1	Description .....	100
14.16.2	Usage.....	100
14.16.3	Values .....	100
14.17	EVENT_TYPE - UECLoad configuration option .....	101
14.17.1	Description .....	101
14.17.2	Usage.....	101
14.17.3	Values .....	101
14.17.4	Examples.....	101
14.18	EXPORT - UECLoad configuration option.....	102
14.18.1	Description .....	102
14.18.2	Usage.....	102
14.18.3	Values .....	102
14.19	EXPORT_DELETE - UECLoad configuration option.....	102
14.19.1	Description .....	102
14.19.2	Usage.....	103
14.19.3	Values .....	103
14.20	FORMAT - UECLoad configuration option.....	103
14.20.1	Description .....	103
14.20.2	Usage.....	103
14.20.3	Values .....	103
14.21	GROUPS - UECLoad configuration option .....	104
14.21.1	Description .....	104

14.21.2	Usage.....	105
14.21.3	Values.....	105
14.22	HELP - UECLoad configuration option.....	106
14.22.1	Description.....	106
14.22.2	Usage.....	106
14.22.3	Values.....	106
14.23	LIST - UECLoad configuration option.....	106
14.23.1	Description.....	106
14.23.2	Usage.....	106
14.23.3	Values.....	107
14.24	MESSAGE_LEVEL - UECLoad configuration option.....	107
14.24.1	Description.....	107
14.24.2	Usage.....	107
14.24.3	Values.....	107
14.24.4	Trace Files.....	108
14.25	START_TIME - UECLoad configuration option.....	108
14.25.1	Description.....	108
14.25.2	Usage.....	108
14.25.3	Values.....	108
14.26	UEC_PORT - UECLoad configuration option.....	109
14.26.1	Description.....	109
14.26.2	Usage.....	109
14.26.3	Values.....	109
14.27	USER_ID - UECLoad configuration option.....	109
14.27.1	Description.....	109
14.27.2	Usage.....	110
14.27.3	Values.....	110
14.28	USER_PASSWORD - UECLoad configuration option.....	110
14.28.1	Description.....	110
14.28.2	Usage.....	110
14.28.3	Values.....	111

14.29	VERSION - UECLoad configuration option .....	111
14.29.1	Description .....	111
14.29.2	Usage .....	111
14.29.3	Values .....	111
15	<b>Universal Event Subsystem .....</b>	<b>112</b>
15.1	Overview .....	112
15.2	Event Messages .....	112
15.2.1	Event Types .....	112
15.2.2	Universal Broker Event Message Processing .....	112
15.3	Universal Event Subsystem Activation .....	113
15.3.1	UES Database Clean-up .....	113
15.3.2	UES Database Access .....	113

- [Overview](#)
  - [Alerts](#)
- [UEC System](#)
- [UEC System Components](#)
  - [Universal Event Subsystem](#)
  - [UECLoad Utility](#)
  - [Universal Enterprise Controller Client Applications \(for Windows\)](#)
- [Detailed Information](#)
- [Universal Enterprise Controller Examples](#)

# 1 Overview

Universal Enterprise Controller (UEC) is a Universal Agent server application, for z/OS and Windows operating systems, that monitors the status of all [Agent installations](#) in your enterprise.

## 1.1 Alerts

UEC sends out alerts to any connected Agent-monitoring applications whenever:

- Universal Broker is unreachable.
- Universal Broker is not responding.
- Agent component enters an orphaned or disconnected state.

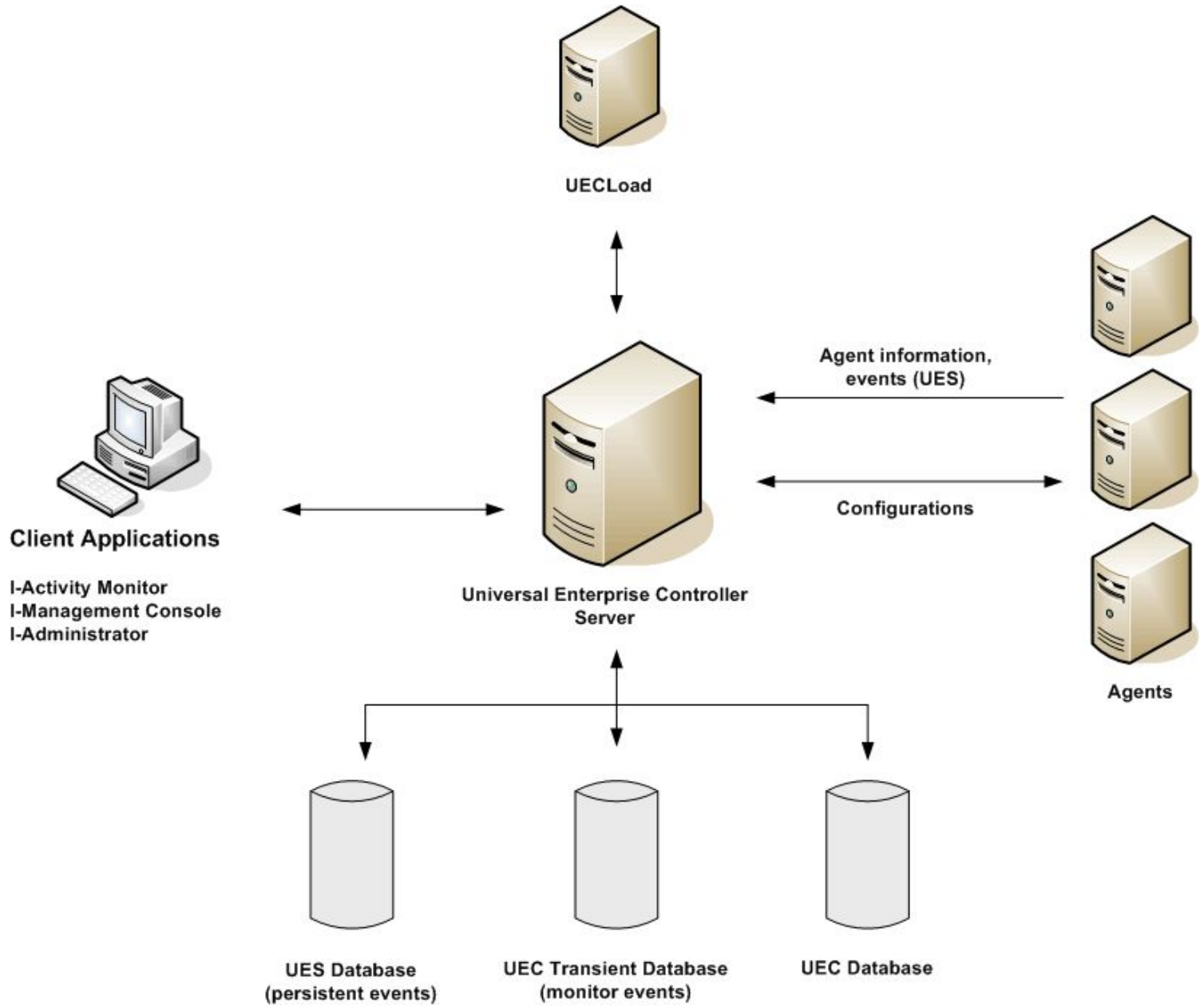
These alerts are posted to the:

- Event Log (when running under Windows)
- Console (when running under z/OS)

Automation tools can be used in conjunction with these messages to perform operations based on agent failures.

## 2 UEC System

The following figure illustrates a UEC system.



## 3 UEC System Components

A UEC system contains, in addition to UEC, the following components:

- [#Universal Event Subsystem](#)
- [#UECLoad Utility](#)
- [#Universal Enterprise Controller Client Applications \(for Windows\)](#)
- [UEC Databases](#)

### 3.1 Universal Event Subsystem

The Universal Event Subsystem (UES) is a subsystem of Universal Enterprise Controller that records, routes, and manages event messages generated by Universal Agent components.

See [Universal Event Subsystem](#) for detailed information on this subsystem.

### 3.2 UECLoad Utility

The UECLoad utility permits UEC users to add, delete, and view Agents in the UEC database.

Via UECLoad, you can add or delete individual Agents or supply an Agents definition file (**deffile**) with definitions to be added or deleted from UEC.

You also can use UECLoad to export existing agent definitions (which later can be used as a definition file to re-create the agent definitions) and event records (from UES).

See [UECLoad Utility](#) for detailed information on this utility.

### 3.3 Universal Enterprise Controller Client Applications (for Windows)

Under the Windows operating system, UEC connects to three stand-alone client applications:

<p><b>I-Administrator</b></p>	<p>I-Administrator is used to administer the list of Agents that UEC will monitor. It also is used to administer UEC users and their permissions. With I-Administrator, the user can add, modify, and delete users, agents, groups, and SAP systems.</p> <div style="border: 1px solid orange; padding: 10px; margin: 10px 0;"> <p><b>Note</b> A user must have UEC administrative rights - granted via I-Administrator - in order to use I-Administrator.</p> </div> <p>Upon installation of UEC, a default user ID (<b>admin</b>) and password (<b>admin</b>) are created having UEC administrative rights. It is recommended that you create another user with UEC administrative rights and then delete the default user.</p>
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<p><b>I-Activity Monitor</b></p>	<p>I-Activity Monitor connects to UEC and displays information about the current status, posted alerts, and job and file activity for all Agents being monitored by UEC throughout an enterprise.</p> <p>When an Agent or SAP system is added to UEC, via the I-Administrator application, UEC is able to collect information about that agent or SAP system.</p> <p>Authorized users are able to use the I-Activity Monitor interface to stop running any Universal Agent component (if it is a component of an Agent being polled by UEC).</p>
<p><b>I-Management Console</b></p>	<p>I-Management Console provides a graphical user interface for reconfiguring Agents:</p> <ol style="list-style-type: none"> <li>1. Reconfigure agents remotely, from a single machine.</li> <li>2. Reconfigure multiple agents simultaneously.</li> </ol>

See [Universal Enterprise Controller Client Applications](#) for detailed information on running these applications.

## 4 Detailed Information

The following pages provide detailed information for Universal Enterprise Controller:

- [Universal Enterprise Controller - Controlled Information](#)
- [Polling](#)
- [Universal Enterprise Controller for z/OS](#)
- [Universal Enterprise Controller for Windows](#)
- [Universal Enterprise Controller Configuration Options](#)
- [Universal Enterprise Controller Additional Information](#)
- [Universal Enterprise Controller Troubleshooting](#)

## 5 Universal Enterprise Controller Examples

See [Starting and Stopping Agent Components - Examples](#) for examples of how to start and stop Universal Enterprise Controller.

## 6 Universal Enterprise Controller - Controlled Information

- [Overview](#)
- [UEC-Maintained Information](#)
  - [Users](#)
  - [Agents](#)
  - [SAP Systems](#)
  - [Groups](#)
- [UEC-Monitored Information](#)
  - [Alerts](#)
  - [Jobs](#)
  - [Files](#)
  - [Systems](#)

### 6.1 Overview

Universal Enterprise Controller (UEC) controls two types of information:

- [UEC-Maintained Information](#)
- [UEC-Monitored Information](#)

### 6.2 UEC-Maintained Information

The information that UEC maintains is organized into four categories:

1. [Users](#)
2. [Agents](#)
3. [SAP Systems](#)
4. [Groups](#)

This information is maintained via the [I-Administrator](#) UEC Client Application.

#### 6.2.1 Users

Only valid UEC users have access to the Universal Enterprise Controller client applications. Each UEC user has a user name and password.

Associated with each user is:

- Set of permissions specifying the operations that the user can perform with UEC.
- List of groups containing the agents that the user can interact with via UEC.

UEC maintains its own user list. Each UEC user is assigned a set of permissions and user group membership.

## 6.2.2 Agents

An agent consists of:

- Agent name.
- Host address.
- Port on which the agent's Universal Broker is listening.

Adding an agent to UEC puts the agent on the UEC polling list. The agent then will be polled each cycle. Information about the status of the agent is sent back to any agent-monitoring utilities connected to UEC.

## 6.2.3 SAP Systems

An SAP system consists of:

- System name.
- Application Server Host (ASHOST)
- Client Number
- System Number

Adding an SAP system to UEC puts the system on the UEC polling list. The SAP system then will be polled each cycle. Information about the status of the SAP system is sent back to I-AM clients connected to UEC.

## 6.2.4 Groups

Groups provide a simple way of organizing agents and/or SAP systems. Each agent or SAP system can belong to one or more groups.

(All agents are placed automatically in the pre-defined **All Agents** group. All SAP systems are placed automatically in the pre-defined **All SAP Systems** group.)

Users have access only to the groups assigned to them by their UEC administrator. This means that a user working with the I-Activity Monitor application can only monitor agents and/or SAP systems in the groups assigned to that user.

## 6.3 UEC-Monitored Information

The information that UEC monitors is organized into four categories:

1. [Alerts](#)
2. [Jobs](#)
3. [Files](#)
4. [Systems](#)

This information can be viewed via the [I-Activity Monitor](#) UEC Client Application.

### 6.3.1 Alerts

UEC monitors alerts for all agents and SAP systems assigned to UEC.

Alerts are monitored until the alert condition has resolved.

### 6.3.1.1 Alert Types

UEC creates three types of alerts:

- **Agent Down**  
UEC was unable to establish a connection with the broker on the last poll attempt.
- **Component Disconnected**  
Server is not connected to the Manager. This occurs when a network error has occurred, the manager halted, or the manager host halted. The server is executing with either the network fault tolerant protocol, is restartable, or both.

#### Note

The Server cannot determine whether or not the Manager is still executing because it cannot communicate with it.

- **Component Orphaned**  
Manager has terminated. The manager sends a termination message to the server to notify it of its termination prior to terminating. This state only occurs if the server is restartable.

### 6.3.2 Jobs

UEC monitors all Universal Command and Universal Data Mover jobs (active, completed, and failed) for all agents assigned to UEC.

### 6.3.3 Files

UEC monitors all files (active, completed, and failed) transferred by UDM for the Agents being monitored by UEC.

### 6.3.4 Systems

UEC monitors all Agents and SAP systems that have been assigned to UEC via the [I-Administrator](#) utility.

#### Note

The UEC `MONITOR_EVENT_EXPIRATION` option defines the length of time that each job and file is monitored (default is 24 hours).

## 7 Polling

- [Agent Polling](#)
- [SAP System Polling](#)

### 7.1 Agent Polling

UEC periodically polls each agent in order to retrieve its status information. The polling request is made on the listening port for the agent's Universal Broker (default 7887).

When UEC polls a agent, it determines whether or not a change in status of the agent has occurred since the last poll. If the agent status has changed, UEC sends this information to the I-Activity Monitor to notify users.

The values specified for the following configuration options affect how polling occurs:

- [BKR\\_QUERIES\\_PER\\_THREAD](#)
- [BKR\\_QUERY\\_THREADS](#)
- [BKR\\_QUERY\\_TIMEOUT](#)
- [POLLING\\_INTERVAL](#)

These configuration values can be modified, allowing UEC to fit your monitoring needs.

Optimally, UEC attempts to poll every agent in the time interval specified by [POLLING\\_INTERVAL](#). However, you can define an independent polling interval for a specific agent via the I-Administrator application. For example, if I-Administrator defines a polling interval of 10 seconds for **agent 123**, UEC will poll **agent 123** every 10 seconds and all other agents at the interval specified by [POLLING\\_INTERVAL](#).

If, upon a poll, UEC is unable to complete communication with a agent in the number of seconds specified by [BKR\\_QUERY\\_TIMEOUT](#), an error is reported which indicates that the agent has timed out.

Use the following equation to calculate the number of agents that UEC can poll at any given time:

Number of agents = [BKR\\_QUERIES\\_PER\\_THREAD](#) x [BKR\\_QUERY\\_THREADS](#)

#### Note

UEC can retrieve health and status information only from Universal Broker versions of 1.2.0 and higher. Earlier versions will be reported by UEC as unreachable or not running.

### 7.2 SAP System Polling

UEC periodically polls each SAP system in order to retrieve its status information. The polling request is performed via an RFC connection to the SAP system. When UEC polls a SAP system, it determines if a change in status of the system has occurred since the last poll. If the SAP system status has changed, UEC sends this information to the [I-Activity Monitor](#) to notify users.

In order to prevent the accidental locking of SAP accounts used by UEC, an SAP system will be dropped from the polling cycle if a logon authentication error occurs. This will prevent UEC from exceeding the number of failed logon attempts allowed by the SAP system.

When an SAP system is disabled due to a logon authentication error, a UNV4363T message is written to the UEC log and an alert is sent to [I-Administrator](#) clients monitoring for alerts.

SAP system definitions that have been disabled due to a logon authentication error can be re-enabled by modifying the User ID, Password, or Client field via the [I-Administrator](#) client. When an SAP system is re-enabled, a UNV1059T message is written to the UEC log and the associated alert is removed from [I-Activity Monitor](#) clients.

## 8 Universal Enterprise Controller for z/OS

- [Overview](#)
- [JCL Procedure](#)
- [DD Statements used in JCL Procedure](#)
- [Configuration Options](#)
- [Command Line Syntax](#)

### 8.1 Overview

Universal Enterprise Controller (UEC) for z/OS executes as a started task.

### 8.2 JCL Procedure

The following figure illustrates the Universal Enterprise Controller for z/OS JCL procedure (**UECTLR**, located in the **SUNVSAMP** library).

```
//UECTLR  PROC  SHLQ=#SHLQ.UNV ,
//          PHLQ=#PHLQ.UNV ,
//          RGN=100M ,
//          UPARM= ,
//          LEPARM= ,
//          CFG=UECCFG00
//S1      EXEC  PGM=UECTLR,REGION=&RGN ,
//          PARM=' ENVAR(TZ=EST5EDT) &LEPARM/&UPARM '
//STEPLIB DD  DSN=&SHLQ..SUNVLOAD ,
//          DISP=SHR
//UNVCONF DD  DSN=&PHLQ..UNVCONF(&CFG) ,
//          DISP=SHR
//UNVNLS  DD  DSN=&SHLQ..SUNVNLS ,
//          DISP=SHR
//UNVDB   DD  DSN=&PHLQ..UECDB ,
//          DISP=SHR
//UNVMSG  DD  SYSOUT=* ,HOLD=YES
//UNVPRSR DD  SYSOUT=* ,HOLD=YES
//UNVTRACE DD  SYSOUT=* ,HOLD=YES
//SYSPRINT DD  SYSOUT=* ,HOLD=YES
//SYSOUT  DD  SYSOUT=* ,HOLD=YES
//CEEDUMP DD  SYSOUT=* ,HOLD=YES
//SYSIN   DD  DUMMY
```

## 8.3 DD Statements used in JCL Procedure

The following table describes the DD statements used in the Universal Enterprise Controller for z/OS [JCL procedure](#), above.

ddname	DCB Attributes	Mode	Description
STEPLIB	DSORG=PO, RECFM=U	input	Universal Agent load library containing the program being executed.
UNVCONF	DSORG=PS, RECFM=(F, FB, V, VB)	input	UEC configuration member.
UNVNLS	DSORG=PO, RECFM=(F, FB, V, VB)	input	Universal Agent national language support library. Contains message catalogs and code page translation tables.
UNVDB	DSNTYPE=HFS	input, output	UEC database.  <div style="border: 1px solid orange; padding: 5px;"><b>Note</b> This ddname is not used when zFS data sets are used instead of HFS data sets.</div>
UNVMMSG	DSORG=PS, RECFM=(F, FB, V, VB)	output	UEC message trace data.
UNVPRSR	DSORG=PS, RECFM=(F, FB, V, VB)	output	UEC parser trace data.
UNVTRACE	DSORG=PO, RECFM=(F, FB, V, VB), LRECL=256 or above.	output	UEC trace output.
SYSPRINT	DSORG=PS, RECFM=(F, FB, V, VB)	output	Standard output file for the UEC program.
SYSOUT	DSORG=PS, RECFM=(F, FB, V, VB)	output	Standard error file for the UEC program.
SYSIN	DSORG=PS, RECFM=(F, FB, V, VB)	input	Standard input file for the UEC program.

## 8.4 Configuration Options

The following table describes the configuration options used to execute Universal Enterprise Controller for z/OS.

Option Name	Description
<a href="#">BKR_QUERIES_PER_THREAD</a>	Maximum number of simultaneous Broker queries allowed for each thread.
<a href="#">BKR_QUERY_THREADS</a>	Number of process threads started to initiate Broker queries during a polling cycle.

Option Name	Description
BKR_QUERY_TIMEOUT	Period of time within which a Broker query must finish before timing out.
BROKER_STATUS_ALERTS_AT_STARTUP	Specification for whether or not UNV1059T alert messages (Broker responding) will be issued for initial Broker polls when Universal Enterprise Controller starts up.
CA_CERTIFICATES	UEC started task procedure ddname from which a PEM-formatted list of certificates is read.
CERTIFICATE	UEC started task procedure ddname from which a PEM-formatted certificate is read.
CERTIFICATE_REVOCATION_LIST	File name / ddname of the PEM-formatted CRL.
CODE_PAGE	Code page for text translation of network data.
COMM_SESSIONS_PER_THREAD	Maximum number of UEC client sessions that can occur on each of the communications threads.
COMM_THREADS	Number of threads created to perform communications between UEC and the UEC Client Applications.
COMMIT_COMPLETE_EXPIRATION	Deletes completed commit configurations, by age.
COMMIT_INCOMPLETE_EXPIRATION	Deletes incomplete commit configurations, by age.
CONVERT	Converts a pre-3.2.0 database into the current database format.
DELETE_EVENTS_ON_BROKER	Specification for whether or not events are deleted on the Universal Broker after they are retrieved and put into the UEC events database.
DNS_CACHE_TIMEOUT	Length of time to retain a resolved host name in memory cache.
DNS_POLLING_INTERVAL	Time interval at which the DNS cache is polled.
HELP	Write options help to SYSPRINT ddname.
HOSTNAME_RETRY_COUNT	Number of times that UEC will attempt to resolve the host name of a specified Universal Broker before it ends with a connect error.
JOB_THREADS	Number of threads created to perform internal tasks in UEC.
KEEP_MONITOR_EVENTS	Specification for whether or not monitor events are written into the UEC temporary database.
LOG_MESSAGES	Specification for whether or not to log all XML message traffic between UEC and any connected applications.
LOGIN_ATTEMPTS	Number of failed login attempts allowed by a user before being disconnected by UEC.
MESSAGE_DESTINATION	Location to which messages are written.
MESSAGE_LANGUAGE	Language used for messages.
MESSAGE_LEVEL	Level of messages written.
MONITOR_EVENT_EXPIRATION	Length of time that state data is retained in the UEC database.
MOUNT_POINT	z/OS UNIX directory in which the HFS or zFS data set is mounted.
MOUNT_POINT_MODE	z/OS UNIX access permission mode value with which the mounted database file system's root directory is set.

Option Name	Description
PERSISTENT_EVENT_EXPIRATION	Deletes event records, by age.
POLLING_INTERVAL	Time interval at which agents are polled.
PRIVATE_KEY	UEC started task procedure ddname from which a PEM-formatted private key is read.
PRIVATE_KEY_PWD	Password for the PRIVATE_KEY.
SAF_KEY_RING	SAF certificate key ring name.
SAF_KEY_RING_LABEL	SAF certificate key ring label.
SAP_POLLING_INTERVAL	Interval (in seconds) at which the SAP systems are polled for their status and job activity.
SERVICE_IP_ADDRESS	IP interface from which to accept connections.
SERVICE_PORT	Port from which to accept connections.
SSL_CIPHER_LIST	SSL/TLS cipher suite to be used for network communications.
SSL_IMPLEMENTATION	SSL/TLS implementation to be used for network configuration.
TMP_DIRECTORY	HFS directory in which Universal Enterprise Controller creates temporary files.
TRACE_FILE_LINES	Maximum number of lines written to the trace ddname.
TRACE_TABLE	Size of the trace table.
UNIX_DB_DATA_SET	HFS or zFS data set used for UEC's databases.
UPDATE_INTERVAL	Time interval at which connected I-Activity Monitor clients are updated.
USER_AUTHENTICATION_METHOD	Authentication method to be used when authenticating UEC user accounts.
VERSION	Writes the program version and copyright statement.

## 8.5 Command Line Syntax

The following figure illustrates the command line syntax – using the long form of configuration options – of Universal Enterprise Controller for z/OS.

```

uec
[-ca_certs ddname]
[-cert ddname [-private_key ddname [-private_key_pwd pwd] ] ]
[-crl ddname]
[-codepage codepage]
[-convert]
[-hostname_retry_count count]
[-keep_monitor_events option]
[-dest destination]
[-lang language]
[-level {trace|audit|info|warn|error}]
[-mount_point directory]

```

```
[-mount_point_mode mode]  
[-unix_db_data_set DSM]  
[-saf_key_ring name]  
[-saf_key_ring_label label]  
[-svcipaddr ipaddress]  
[-svcport port]  
[-ssl_cipher_list cipherlist]  
[-ssl_implementation {openssl|system}]  
[-tracefilelines lines]  
  
uec  
{ [-help] | [-version] }
```

For a description of the options, see [Universal Enterprise Controller Configuration Options](#).

## 9 Universal Enterprise Controller for Windows

### 9.1 Overview

Universal Enterprise Controller (UEC) for Windows executes as a service.

### 9.2 Configuration Options

The following table describes the configuration options used to execute Universal Enterprise Controller for Windows.

Option Name	Description
<a href="#">BKR_QUERIES_PER_THREAD</a>	Maximum number of simultaneous Broker queries allowed for each thread.
<a href="#">BKR_QUERY_THREADS</a>	Number of process threads started to initiate Broker queries during a polling cycle.
<a href="#">BKR_QUERY_TIMEOUT</a>	Period of time within which a Broker query must finish before timing out.
<a href="#">BROKER_STATUS_ALERTS_AT_STARTUP</a>	Specification for whether or not UNV1059T alert messages (Broker responding) will be issued for initial Broker polls when Universal Enterprise Controller starts up.
<a href="#">CA_CERTIFICATES</a>	UEC started task procedure ddname from which a PEM-formatted list of certificates is read.
<a href="#">CERTIFICATE</a>	UEC started task procedure ddname from which a PEM-formatted certificate is read.
<a href="#">CERTIFICATE_REVOCATION_LIST</a>	File name / ddname of the PEM-formatted CRL
<a href="#">CODE_PAGE</a>	Code page for text translation of network data.
<a href="#">COMM_SESSIONS_PER_THREAD</a>	Maximum number of UEC client sessions that can occur on each of the communications threads.
<a href="#">COMM_THREADS</a>	Number of threads created to perform communications between UEC and the UEC Client Applications.
<a href="#">COMMIT_COMPLETE_EXPIRATION</a>	Deletes completed commit configurations, by age.
<a href="#">COMMIT_INCOMPLETE_EXPIRATION</a>	Deletes incomplete commit configurations, by age.
<a href="#">DELETE_EVENTS_ON_BROKER</a>	Specification for whether or not events are deleted on the Universal Broker after they are retrieved and put into the UEC events database.
<a href="#">DNS_CACHE_TIMEOUT</a>	Length of time to retain a resolved host name in memory cache.
<a href="#">DNS_POLLING_INTERVAL</a>	Time interval at which the DNS cache is polled.
<a href="#">HOSTNAME_RETRY_COUNT</a>	Number of times that UEC will attempt to resolve the host name of a specified Universal Broker before it ends with a connect error.
<a href="#">JOB_THREADS</a>	Number of threads created to perform internal tasks in UEC.

Option Name	Description
KEEP_MONITOR_EVENTS	Specification for whether or not monitor events are written into the UEC temporary database.
LOG_MESSAGES	Specification for whether or not to log all XML message traffic between UEC and any connected applications.
LOG_MESSAGES_DIRECTORY	Directory used for UEC log messages.
LOGIN_ATTEMPTS	Number of failed login attempts allowed by a user before being disconnected by UEC.
MESSAGE_DESTINATION	Location to which messages are written.
MESSAGE_LANGUAGE	Language used for messages.
MESSAGE_LEVEL	Level of messages written.
MONITOR_EVENT_EXPIRATION	Length of time that state data is retained in the UEC database.
PERSISTENT_EVENT_EXPIRATION	Deletes event records, by age.
POLLING_INTERVAL	Time interval at which agents are polled.
PRIVATE_KEY	UEC started task procedure ddname from which a PEM-formatted private key is read.
PRIVATE_KEY_PWD	Password for the PRIVATE_KEY.
SAP_POLLING_INTERVAL	Interval (in seconds) that the SAP systems are polled for their status and job activity.
SERVICE_IP_ADDRESS	IP interface from which to accept connections.
SERVICE_PORT	Port from which to accept connections.
SSL_CIPHER_LIST	SSL/TLS cipher suite to be used for network communications.
TRACE_DIRECTORY	Directory used for UEC trace files.
TRACE_FILE_LINES	Maximum number of lines written to the trace ddname.
TRACE_TABLE	Size of the trace table.
UPDATE_INTERVAL	Time interval at which connected I-Activity Monitor clients are updated.
USER_AUTHENTICATION_METHOD	Authentication method to be used when authenticating UEC user accounts.

# 10 Universal Enterprise Controller Configuration Options

- [Overview](#)
- [Configuration Options Information](#)
  - [Description](#)
  - [Usage](#)
  - [Values](#)
  - [<Additional Information>](#)
- [Configuration Options List](#)

## 10.1 Overview

This page provides links to detailed information on the configuration options available for use with Universal Enterprise Controller (UEC).

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

## 10.2 Configuration Options Information

For each configuration option, the following information is provided.

### 10.2.1 Description

Describes the configuration option and how it is used.

### 10.2.2 Usage

Provides a table of the following information:

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	<Format / Value>					
Command Line, Long Form	<Format / Value>					
Configuration File Keyword	<Format / Value>					

#### 10.2.2.1 Method

Identifies the different methods used to specify Universal Enterprise Controller configuration options:

- Command Line Option, Short Form
- Command Line Option, Long Form
- Configuration File Keyword

#### Note

Each option can be specified using one or more methods.

### 10.2.2.2 Syntax

Identifies the syntax of each method that can be used to specify the option:

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

#### Note

If a Method is not valid for specifying the option, the Syntax field contains **n/a**.

### 10.2.2.3 (Operating System)

Identifies (with a ?) the operating systems for which each method of specifying the option is valid:

- IBM i
- HP NonStop
- UNIX
- Windows
- z/OS

### 10.2.3 Values

Identifies all possible values for the specified value type.

Defaults are identified in bold type\*.

### 10.2.4 <Additional Information>

Identifies any additional information specific to the option.

## 10.3 Configuration Options List

The following table identifies the Universal Enterprise Controller configuration options.

Option Name	Description
BKR_QUERIES_PER_THREAD	Maximum number of simultaneous Broker queries allowed for each thread.
BKR_QUERY_THREADS	Number of process threads started to initiate Broker queries during a polling cycle.
BKR_QUERY_TIMEOUT	Period of time within which a Broker query must finish before timing out.
BROKER_STATUS_ALERTS_AT_STARTUP	Specification for whether or not UNV1059T alert messages (Broker responding) will be issued for initial Broker polls when Universal Enterprise Controller starts up.
CA_CERTIFICATES	UEC started task procedure ddname from which a PEM-formatted list of certificates is read.
CERTIFICATE	UEC started task procedure ddname from which a PEM-formatted certificate is read.
CERTIFICATE_REVOCATION_LIST	File name / ddname of the PEM-formatted CRL
CODE_PAGE	Code page for text translation of network data.
COMM_SESSIONS_PER_THREAD	Maximum number of UEC client sessions that can occur on each of the communications threads.
COMM_THREADS	Number of threads created to perform communications between UEC and the Universal Enterprise Controller Client Applications.
COMMIT_COMPLETE_EXPIRATION	Deletes completed commit configurations, by age.
COMMIT_INCOMPLETE_EXPIRATION	Deletes incomplete commit configurations, by age
CONVERT	Converts a pre-3.2.0 database into the current database format.
DELETE_EVENTS_ON_BROKER	Specification for whether or not events are deleted on the Universal Broker after they are retrieved and put into the UEC events database.
DNS_CACHE_TIMEOUT	Length of time to retain a resolved host name in memory cache.
DNS_POLLING_INTERVAL	Time interval at which the DNS cache is polled.
HELP	Displays a description of command line options and their format.
HOSTNAME_RETRY_COUNT	Number of times that UEC will attempt to resolve the host name of a specified Universal Broker before it ends with a connect error.
JOB_THREADS	Number of threads created to perform internal tasks in UEC.
KEEP_MONITOR_EVENTS	Specification for whether or not monitor events are written into the UEC temporary database.
LOG_MESSAGES	Specification for whether or not to log all XML message traffic between UEC and any connected applications.
LOG_MESSAGES_DIRECTORY	Directory used for UEC log messages.
LOGIN_ATTEMPTS	Number of failed login attempts allowed by a user before being disconnected by UEC.
MESSAGE_DESTINATION	Location to which messages are written.
MESSAGE_LANGUAGE	Language used for messages.
MESSAGE_LEVEL	Level of messages written.

Option Name	Description
MONITOR_EVENT_EXPIRATION	Length of time that state data is retained in the UEC database.
MOUNT_POINT	z/OS UNIX directory in which the HFS or zFS data set is mounted.
MOUNT_POINT_MODE	z/OS UNIX access permission mode value with which the mounted database file system's root directory is set.
PERSISTENT_EVENT_EXPIRATION	Deletes event records, by age.
POLLING_INTERVAL	Time interval at which agents are polled.
PRIVATE_KEY	UEC started task procedure ddname from which a PEM-formatted private key is read.
PRIVATE_KEY_PWD	Password for the PRIVATE_KEY.
SAF_KEY_RING	SAF certificate key ring name.
SAF_KEY_RING_LABEL	SAF certificate key ring label.
SAP_POLLING_INTERVAL	Interval (in seconds) at which the SAP systems are polled for their status and job activity.
SERVICE_IP_ADDRESS	IP interface from which to accept connections.
SERVICE_PORT	Port from which to accept connections.
SSL_CIPHER_LIST	SSL/TLS cipher suite to be used for network communications.
SSL_IMPLEMENTATION	SSL/TLS implementation to be used for network configuration.
TMP_DIRECTORY	HFS directory in which Universal Enterprise Controller creates temporary files.
TRACE_DIRECTORY	Directory used for UEC trace files
TRACE_FILE_LINES	Maximum number of lines written to the trace ddname.
TRACE_TABLE	Size of the trace table.
UNIX_DB_DATA_SET	HFS or zFS data set used for UEC databases.
UPDATE_INTERVAL	Time interval at which connected I-Activity Monitor clients are updated.
USER_AUTHENTICATION_METHOD	Authentication method to be used when authenticating UEC user accounts.
VERSION	Writes the program version and copyright statement.

## 10.4 BKR\_QUERIES\_PER\_THREAD - UEC configuration option

### 10.4.1 Description

The BKR\_QUERIES\_PER\_THREAD option specifies the maximum number of simultaneous Broker queries allowed for each thread.

For example, if there are 4 threads and 25 queries per thread allowed, then a maximum of 100 Brokers can be queried at the same time during one polling cycle.

### 10.4.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	bkr_queries_per_thread <i>count</i>				✔	✔

### 10.4.3 Values

*count* is the maximum number of queries allowed.

#### 10.4.3.1 Default

Windows	10
z/OS	25

## 10.5 BKR\_QUERY\_THREADS - UEC configuration option

### 10.5.1 Description

The BKR\_QUERY\_THREADS option specifies the number of threads started in order to initiate broker queries during a polling cycle.

**Note**



One BKR\_QUERY\_THREADS is equivalent to one task or TCB.

z/OS

For each query thread, a task (TCB) is created in the UEC address space. A task is an individually dispatchable unit of work within the address space. The more tasks that exist in the address space, the more CPU and memory resources the address space consumes. The benefit of the additional tasks is that each task may execute in parallel producing a higher overall throughput of broker queries.

The throughput benefits achieved with additional tasks diminish after a certain optimum number of tasks. The optimum number depends on the hardware resources available to the operating system and the UEC address space resource configuration. A typical range is from 2 to 10 threads.

### 10.5.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	bkr_query_threads count					

### 10.5.3 Values

count is the number of threads started in order to initiate broker queries.

#### 10.5.3.1 Default

Windows	10
z/OS	4

## 10.6 BKR\_QUERY\_TIMEOUT - UEC configuration option

### 10.6.1 Description

The BKR\_QUERIES\_TIMEOUT option specifies the time in which a broker query must finish before timing out.

### 10.6.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Long Form	n/a					
Configuration File Keyword	bkr_query_timeout <i>count</i>				✔	✔

### 10.6.3 Values

*count* is the time (in seconds) in which a broker query must finish.

**Default is 60.**

## 10.7 BROKER\_STATUS\_ALERTS\_AT\_STARTUP - UEC configuration option

### 10.7.1 Description

The BROKER\_STATUS\_ALERTS\_AT\_STARTUP option specifies whether or not UNV1059T alert messages (Broker responding) will be issued for initial Broker polls when Universal Enterprise Controller starts up.

### 10.7.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	broker_status_alerts_at_startup <i>option</i>				✔	✔

### 10.7.3 Values

*option* is the specification for whether or not UNV1059T alert messages will be issued when Universal Enterprise Controller starts up.

Valid values for *option* are:

- **yes**  
UNV1059T alert messages will be issued on the initial poll for Brokers that are responding.
- **no**  
UNV1059T alert messages will not be issued on the initial poll for Brokers that are responding.

In either case, UNV1056T alert messages (Unable to connect) will be issued on the initial poll for Brokers that are not responding.

**Default is no.**

## 10.8 CA\_CERTIFICATES - UEC configuration option

### 10.8.1 Description

The CA\_CERTIFICATES option specifies the PEM-formatted trusted Certificate Authority (CA) X.509 certificates file / ddname. Trust CA certificates are required if certificate authentication and verification is desired.

### 10.8.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-ca_certs <i>ddname</i> or <i>file</i>					✓
Configuration File Keyword	ca_certificates <i>ddname</i> or <i>file</i>				✓	✓

### 10.8.3 Values

Windows	<i>file</i> is the path name of the X.509 certificates file. Relative paths are relative the current working directory.
z/OS	<i>ddname</i> is the ddname of the X.509 certificates.

## 10.9 CERTIFICATE - UEC configuration option

### 10.9.1 Description

The CERTIFICATE option specifies the file / ddname name of the PEM-formatted X.509 certificate that identifies the Universal Enterprise Controller.

UEC may use an X.509 certificate to identify itself when connecting to Universal Brokers. If a certificate is not specified by CERTIFICATE, an internal certificate is generated.

#### Note

If the CERTIFICATE option is used, the [PRIVATE\\_KEY](#) option also is required.

## 10.9.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-cert <i>ddname</i> or <i>file</i>					✓
Configuration File Keyword	certificate <i>ddname</i> or <i>file</i>				✓	✓

## 10.9.3 Values

Windows	<i>file</i> is the path name of the X.509 certificate file. Relative paths are relative to the current working directory.
z/OS	<i>ddname</i> is the ddname of the X.509 certificate.

## 10.10 CERTIFICATE\_REVOCAATION\_LIST - UEC configuration option

### 10.10.1 Description

The CERTIFICATE\_REVOCAATION\_LIST option specifies the file name / ddname of the PEM-formatted file containing the Certificate Revocation List (CRL) issued by the trusted Certificate Authority.

### 10.10.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-crl <i>file</i> or <i>ddname</i>					✓
Configuration File Keyword	crl <i>file</i> or <i>ddname</i>				✓	✓

### 10.10.3 Values

Windows	<i>file</i> is the path name of the file containing the CRL. Relative paths are relative to the current working directory.
z/OS	<i>ddname</i> is the ddname of the file containing the CRL. The value is used only when the <a href="#">SSL_IMPLEMENTATION</a> option is set to <b>openssl</b> .

## 10.11 CODE\_PAGE - UEC configuration option

### 10.11.1 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.

### 10.11.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-t <i>codepage</i>					✓
Command Line, Long Form	-codepage <i>codepage</i>					✓
Configuration File Keyword	codepage <i>codepage</i>				✓	✓

### 10.11.3 Values

*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](#)). UTT files are used to translate between Unicode and the local single-byte code page. (All UTT files end with an extension of **.utt**.)

#### 10.11.3.1 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.

## 10.12 COMM\_SESSIONS\_PER\_THREAD - UEC configuration option

### 10.12.1 Description

The COMM\_SESSIONS\_PER\_THREAD option specifies the maximum number of UEC client sessions that can occur on each of the communications threads (see the [COMM\\_THREADS](#) option).

### 10.12.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	comm_sessions_per_thread <i>count</i>				✔	✔

### 10.12.3 Value

*count* is the number of sessions per communications thread.

**Default is 64.**

## 10.13 COMM\_THREADS - UEC configuration option

### 10.13.1 Description

The COMM\_THREADS option specifies the number of threads created to perform communications between UEC and the Universal Enterprise Controller Client Applications.

### 10.13.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	comm_threads <i>count</i>				✔	✔

### 10.13.3 Value

*count* is the number of threads.

**Default is 1.**



## 10.14 COMMIT\_COMPLETE\_EXPIRATION - UEC configuration option

### 10.14.1 Description

The COMMIT\_COMPLETE\_EXPIRATION option specifies the length of time that complete commit records are retained, upon which (or after which) UEC deletes them.

The minimum length of time that records are retained is one hour.

### 10.14.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	commit_complete_expiration <i>time</i>					

### 10.14.3 Value

*time* is the length of time that completed commit records are retained before being deleted.

Valid values for *time* are a number followed by (optionally) one of the following suffixes:

- **s** (seconds)
- **m** (minutes)
- **h** (hours)
- **d** (days)

If a suffix is not specified, the number is assumed to indicate seconds.

(For example, if **3d** is specified, the records are retained for three days before UEC deletes them.)

#### Note

If **0** is specified, completed commit records are not deleted.

**Default is 60d.**

## 10.15 COMMIT\_INCOMPLETE\_EXPIRATION - UEC configuration option

### 10.15.1 Description

The COMMIT\_INCOMPLETE\_EXPIRATION option specifies the length of time that incomplete commit records are retained, upon which (or after which) UEC deletes them.

The minimum length of time that records are retained is one hour.

**Note**

An incomplete commit record is a committed configuration with agents that are pending to receive the configuration changes.

### 10.15.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	commit_incomplete_expiration <i>time</i>				✔	✔

### 10.15.3 Value

*time* is the length of time that incomplete commit records are retained before being deleted.

Valid values for *time* are a number followed by (optionally) one of the following suffixes:

- **s** (seconds)
- **m** (minutes)
- **h** (hours)
- **d** (days)

If a suffix is not specified, the number is assumed to indicate seconds.

(For example, if **3d** is specified, the records are retained for three days before UEC deletes them.)

**Note**

If **0** is specified, incomplete commit records are not deleted.


Default is 90d.

## 10.16 CONVERT - UEC configuration option

### 10.16.1 Description

The CONVERT option converts a pre-3.2.0 database into the current database format.

### 10.16.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-convert					
Configuration File Keyword	n/a					

### 10.16.3 Value



(There are no values for this option.)

## 10.17 DELETE\_EVENTS\_ON\_BROKER - UEC configuration option

### 10.17.1 Description

The DELETE\_EVENTS\_ON\_BROKER option specifies whether or not events are deleted on the Universal Broker after they are retrieved and put into the UEC events database.

### 10.17.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	<code>delete_events_on_broker option</code>					

### 10.17.3 Value

*option* is the specification for whether or not to delete events on the Universal Broker.

Valid values for *option* are:

- **yes**  
Delete events on the Universal Broker.
- **no**  
Do not delete events on the Universal Broker.

**Default is no.**

## 10.18 DNS\_CACHE\_TIMEOUT - UEC configuration option

### 10.18.1 Description

The DNS\_CACHE\_TIMEOUT option specifies the length of time (in seconds) to retain a resolved host name in DNS memory cache.

The DNS cache provides a performance enhancement in environments where the DNS system is slow to respond.

### 10.18.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	dns_cache_timeout <i>seconds</i>				✓	✓

### 10.18.3 Value

*seconds* is the number of seconds to retain the host name in memory cache.

A value of **0** disables caching of host entries.



**Default is 360.**

## 10.19 DNS\_POLLING\_INTERVAL - UEC configuration option

### 10.19.1 Description

The DNS\_POLLING\_INTERVAL option specifies the time interval (in seconds) at which the DNS cache is polled.

## 10.19.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	dns_polling_interval <i>seconds</i>					

## 10.19.3 Value

*seconds* is the interval (in seconds) at which the DNS cache is polled.



**Default is 120.**

## 10.20 HELP - UEC configuration option

### 10.20.1 Description

The HELP option displays a description of the UECLoad command line options and their format.

### 10.20.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-h					
Command Line, Long Form	-help					
Confirmation File Keyword	n/a					

### 10.20.3 Values

(There are no values for the HELP option.)

## 10.21 HOSTNAME\_RETRY\_COUNT - UEC configuration option

### 10.21.1 Description

The HOSTNAME\_RETRY\_COUNT option specifies the number of times that UEC will attempt to resolve the host name of a specified Universal Broker before it ends with a connect error.

UEC will sleep for one second between resolution attempts.

Connection errors occur for several reasons. A common reason is a failure to resolve the Universal Broker host name specified with the UECload [BROKER\\_HOST](#) option. This error can occur intermittently due to a temporary resource shortage or a temporary DNS problem. If your system is prone to host name resolution errors, it may help to have UEC retry the connection several times.

### 10.21.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-hostname_retry_count <i>count</i>					✓
Configuration File Keyword	hostname_retry_count <i>count</i>				✓	✓

### 10.21.3 Values

*count* is the number of times that UEC will attempt to resolve the host name.

**Default is 1.**

## 10.22 JOB\_THREADS - UEC configuration option

### 10.22.1 Description

The JOB\_THREADS option specifies the number of threads created to perform internal tasks in UEC.

These tasks can include processing for the Universal Enterprise Controller Client Applications where this value can affect the performance of client applications.

### 10.22.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Long Form	n/a					
Configuration File Keyword	job_threads count					

### 10.22.3 Value

count is the number of threads.

Default is 10.

## 10.23 KEEP\_MONITOR\_EVENTS - UEC configuration option

### 10.23.1 Description

The KEEP\_MONITOR\_EVENTS option specifies whether or not monitor events are written into the UEC temporary database.

### 10.23.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-keep_monitor_events option					
Configuration File Keyword	keep_monitor_events option					

### 10.23.3 Values

option is the specification for whether or not to write monitor events into the database.

Valid values for option are:

- **yes**  
Write monitor events into the UEC temporary database.
- **no**  
Do not write monitor events into the UEC temporary database.

Default is no.

#### Note

KEEP\_MONITOR\_EVENTS should be set to the default value unless directed otherwise by Stonebranch, Inc. Customer Support.

## 10.24 LOG\_MESSAGES - UEC configuration option

### 10.24.1 Description

The LOG\_MESSAGES option specifies whether or not to write to a log all XML messages exchanged between UEC and any connected applications.



#### Note

LOG\_MESSAGES is a debugging flag to be used with help from Stonebranch, Inc. Customer Support.

#### z/OS

Log messages are written to the UNVMSGs and UNVPRSR ddnames.

### 10.24.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	log_messages <i>option</i>					

### 10.24.3 Value

*option* is the specification for whether or not to write the messages.

Valid values for *option* are:


- **yes**  
Write XML message traffic to a log.
- **no**  
Do not write XML message traffic to a log.

## 10.25 LOG\_MESSAGES\_DIRECTORY - UEC configuration option

### 10.25.1 Description

The LOG\_MESSAGES\_DIRECTORY option specifies the directory that UEC uses for log messages.

### 10.25.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	log_messages_directory <i>directory</i>					

### 10.25.3 Value

*directory* is the directory to use for log messages.



**Default =** c:\program files\universal\uectlr\log.

## 10.26 LOGIN\_ATTEMPTS - UEC configuration option

### 10.26.1 Description

The LOGIN\_ATTEMPTS option specifies the number of failed login attempts over a single connection that a user is allowed before UEC disconnects the user.

### 10.26.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	login_attempts <i>count</i>					

### 10.26.3 Values

*count* is the number of failed login attempts allowed.

Valid values for *count* are any number.

**Default is 3.**

## 10.27 MESSAGE\_DESTINATION - UEC configuration option

### 10.27.1 Description

The MESSAGE\_DESTINATION option specifies the location where messages are written.

### 10.27.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-d <i>destination</i>					✓
Command Line, Long Form	-dest <i>destination</i>					✓
Configuration File Keyword	message_dest <i>destination</i>				✓	✓

### 10.27.3 Value

*destination* is the location where messages are written.

Valid values for *destination* are:

<b>Windows</b>	<ul style="list-style-type: none"> <li>• <b>system</b> Writes the messages to the Windows Application Event Log.</li> </ul>
<b>z/OS</b>	<ul style="list-style-type: none"> <li>• <b>stderr</b> Writes the messages to the console.</li> <li>• <b>stderr</b> is a valid value only if UEC is running as a console application.</li> <li>• <b>logfile</b> Writes the messages to ddname <b>UNVLOG</b>.</li> <li>• <b>system</b> Writes the messages to the console as WTO messages.</li> </ul> <p><b>Default for a console process is stderr.</b></p>

## 10.28 MESSAGE\_LANGUAGE - UEC configuration option

### 10.28.1 Description

The MESSAGE\_LANGUAGE option specifies the Universal Message Catalog (UMC) that is used to format messages.

There is a message catalog for each language.

Universal Enterprise Controller message catalog member / file names start with characters **UECMC**. The first three characters of the language are used as a three-character suffix of the member / file name. All UMC catalogs have a **.UMC** extension

#### Note

Currently, the only message catalog provided is for English.

### 10.28.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-L <i>language</i>					✓
Command Line, Long Form	-lang <i>language</i>					✓
Configuration File Keyword	language <i>language</i>				✓	✓

### 10.28.3 Values

*language* is the name of the UMC catalog.

#### z/OS

*language* translates to a member name of the library allocated on the UNVNLS DD statement.

**Default is ENGLISH.**

## 10.29 MESSAGE\_LEVEL - UEC configuration option

### 10.29.1 Description

The MESSAGE\_LEVEL option specifies the level of messages to write.

### 10.29.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-l <i>level</i>					✓
Command Line, Long Form	-level <i>level</i>					✓
Configuration File Keyword	message_level <i>level</i>				✓	✓

### 10.29.3 Values

*level* indicates either of the following level of messages:

- **trace**  
Writes trace messages used for diagnostic purposes.

#### 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.**

## 10.30 MONITOR\_EVENT\_EXPIRATION - UEC configuration option

### 10.30.1 Description

The MONITOR\_EVENT\_EXPIRATION option specifies the length of time that state data is retained in the UEC database.



State data refers to data collected and generated by UEC that is used to represent the work and working state of Universal Agent at a point in time. Collected data includes monitor-routed UES events and Universal Agent component state data.

Each state data record is associated with a particular Universal Agent workflow. While the workflow is active, some component of the workflow is generating state data. State data is aged and expired at the workflow level.

All records associated with a workflow are considered to be as old as the last update performed for the workflow. Therefore, when a clean-up cycle occurs, and no state data activity has occurred on a workflow for at least the length of time specified by MONITOR\_EVENT\_EXPIRATION, all records associated with the workflow are removed from the database.

State data clean-up cycles occur once every hour. Therefore, the minimum length of time that state data is retained is one hour.

### 10.30.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	monitor_event_expiration <i>time</i>					

### 10.30.3 Values

*time* is the length of time that event records are retained before being deleted.

Valid values for *time* are a number followed by (optionally) one of the following suffixes:

- **s** (seconds)
- **m** (minutes)
- **h** (hours)
- **d** (days)

If a suffix is not specified, the number is assumed to indicate seconds.

(For example, if **3d** is specified, the records are retained for three days before UEC deletes them.)

**Default is 24h.**

## 10.31 MOUNT\_POINT - UEC configuration option

### 10.31.1 Description

The MOUNT\_POINT option specifies the z/OS UNIX directory in which the HFS or zFS data set is mounted.

- An HFS data set is specified either by the [UNIX\\_DB\\_DATA\\_SET](#) option or the **UNVDB** ddname.
- A zFS data set is specified only by the [UNIX\\_DB\\_DATA\\_SET](#) option. A zFS data set name cannot be specified by ddname.

The actual mount point will be a subdirectory named after the HFS or zFS data set name being mounted.

If the mount point does not exist, it is created by UEC.

### 10.31.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-mount_point <i>directory</i>					
Configuration File Keyword	mount_point <i>directory</i>					

### 10.31.3 Values

*directory* is the z/OS UNIX directory in which the HFS or zFS data set is mounted.

**Default is tmp.**

#### Note

The HFS z/OS UNIX permission mode is set to *dir*.

## 10.32 MOUNT\_POINT\_MODE - UEC configuration option

### 10.32.1 Description

The MOUNT\_POINT option specifies the z/OS UNIX access permission mode value with which the mounted database file system's root directory is set.

The z/OS UNIX file system is initialized only if the file **.inited** is not found in the root directory. When initialization is performed once, **.inited** is created; initialization will not be performed again.

If you need to customize the directory ownership or permissions, define the file **.inited** in the file system's root directory; UEC will not perform its initialization.

## 10.32.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-mount_point_mode <i>mode</i>					✓
Configuration File Keyword	mount_point_mode <i>mode</i>					✓

## 10.32.3 Values

*mode* is the z/OS UNIX permission mode value, which is a sum of the permission modes to be granted.

The following table describes each mode.

Mode	Description
100	User execute permission
200	User write permission
400	User read permission
010	Group execute permission
020	Group write permission
040	Group read permission
001	Other execute permission
002	Other write permission
004	Other read permission

The format of *mode* is the same as the "change mode" USS command **chmod**. It is an octal number that specifies the permission mode value corresponding to the user, group, and other permission mode fields.

(Refer to the IBM *UNIX System Services Command Reference* for complete details on the **chmod** command.)

### 10.32.3.1 Default

Default is **750**, which specifies:

- Read-write-execute access for the user

- Read-execute access for the group
- No access for other

## 10.33 PERSISTENT\_EVENT\_EXPIRATION - UEC configuration option

### 10.33.1 Description

The PERSISTENT\_EVENT\_EXPIRATION option specifies the length of time that persistent event records are retained in the UEC database.

Persistent event data refers to data collected and generated by UEC from the Universal Broker on remote platforms. This data is used to represent a sequence of events that have occurred over a period of time. Collected data includes persistent-routed UES events. This commonly is referred to as Universal Event Subsystem data.

The minimum length of time that records are retained is one hour.

### 10.33.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	<code>persistent_event_expiration time</code>				✔	✔

### 10.33.3 Value

*time* is the length of time that persistent event records are retained before being deleted.

Valid values for *time* are a number followed by (optionally) one of the following suffixes:

- **s** (seconds)
- **m** (minutes)
- **h** (hours)
- **d** (days)

If a suffix is not specified, the number is assumed to indicate seconds.

(For example, if **3d** is specified, the records are retained for three days before UEC deletes them.)

#### Note

If **0** is specified, persistent event records are not deleted.



**Default is 60d.**

## 10.34 POLLING\_INTERVAL - UEC configuration option

### 10.34.1 Description

The POLLING\_INTERVAL option specifies the time interval (in seconds) at which the agents in the UEC agent list are polled.

### 10.34.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	polling_interval <i>seconds</i>					

### 10.34.3 Value

*seconds* is the interval (in seconds) at which the agents are polled.

Valid values for *seconds* is any number.

**Default is 120.**

(If your agent list is large, you may want to increase this default interval.)

#### Note

POLLING\_INTERVAL should not be set to a value lower than the number of agents divided by [BKR\\_QUERIES\\_PER\\_THREAD](#) x [BKR\\_QUERY\\_THREADS](#). While doing so will not cause any harm to UEC, it will prevent UEC from operating as efficiently as possible.

## 10.35 PRIVATE\_KEY - UEC configuration option

### 10.35.1 Description

The PRIVATE\_KEY option specifies the location of the PEM-formatted private key that corresponds to the X.509 certificate specified by the [CERTIFICATE](#) option.

### Note

PRIVATE\_KEY is required only if a certificate is specified by [CERTIFICATE](#).

## 10.35.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-private_key <i>ddname</i>					✓
Configuration File Keyword	private_key <i>ddname</i> or <i>file</i>				✓	✓

## 10.35.3 Values

Windows	<i>file</i> is the full path name of the file from which the PEM-formatted private key is read.
z/OS	<i>ddname</i> is the ddname from which the PEM-formatted private key is read.

## 10.36 PRIVATE\_KEY\_PWD - UEC configuration option

### 10.36.1 Description

The PRIVATE\_KEY\_PWD option specifies the password for the PEM-formatted private key specified with the [PRIVATE\\_KEY](#) option.

### Note

Whether or not the password is required depends on whether or not it is required by the private key.

## 10.36.2 Usage

Method	Syntax *	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					

Method	Syntax *	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Long Form	-private_key_pwd <i>password</i>					✓
Configuration File Keyword	private_key_password <i>password</i>				✓	✓

### 10.36.3 Values

*password* is the password for the private key.

## 10.37 SAF\_KEY\_RING - UEC configuration option

### 10.37.1 Description

The SAF\_KEY\_RING option specifies the name of the SAF key ring that a UEC will use as its X.509 certificate, if Universal Broker requires the UEC to provide an X.509 certificate to identify itself to the Broker.

#### Note

SAF\_KEY\_RING is required if the [SSL\\_IMPLEMENTATION](#) option is set to **system**.

### 10.37.2 Usage

Method	Syntax *	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-saf_key_ring <i>name</i>					✓
Configuration File Keyword	saf_key_ring <i>name</i>					✓

### 10.37.3 Values

*name* is the name of the SAF certificate key ring.

## 10.38 SAF\_KEY\_RING\_LABEL - UEC configuration option

### 10.38.1 Description

The SAF\_KEY\_RING\_LABEL option specifies the label of the certificate in the SAF certificate key ring.  
(The key ring is specified by the [SAF\\_KEY\\_RING](#) option.)

### 10.38.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-saf_key_ring_label <i>label</i>					✓
Configuration File Keyword	saf_key_ring_label <i>label</i>					✓

### 10.38.3 Values

*label* is the label of the SAF certificate key ring.

**Default is default certificate in the key ring.**

## 10.39 SAP\_POLLING\_INTERVAL - UEC configuration option

### 10.39.1 Description

The SAP\_POLLING\_INTERVAL option specifies the interval (in seconds) at which the SAP systems are polled for their status and job activity.

### 10.39.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	sap_polling_interval <i>interval</i>				✓	✓

### 10.39.3 Values

*interval* is the interval (in seconds) at which the SAP systems are polled for their status and job activity.

**Default is 120.**

## 10.40 SERVICE\_IP\_ADDRESS - UEC configuration option

### 10.40.1 Description

The SERVICE\_IP\_ADDRESS option specifies the IP interface on which to accept network connection requests.

SERVICE\_IP\_ADDRESS is useful only if the system has multiple IP interfaces. If the system has only one interface, do not use SERVICE\_IP\_ADDRESS.

If the system has multiple interfaces and SERVICE\_IP\_ADDRESS is not used, connection requests are accepted on all interfaces defined on the system.

### 10.40.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-i <i>ipaddress</i>					✓
Command Line, Long Form	-svcipaddr <i>ipaddress</i>					✓
Configuration File Keyword	service_ip_address <i>ipaddress</i>				✓	✓

### 10.40.3 Values

*ipaddress* is the IP address on which to accept network connection requests.

Valid values for *ipaddress* are:

- Dotted numeric format (for example, **20.30.40.50**)
- Domain name format (for example, **myinterface**).

#### Note

An asterisk ( \* ) specifies all interfaces.

**Default is asterisk ( \* ).**

## 10.41 SERVICE\_PORT - UEC configuration option

### 10.41.1 Description

The SERVICE\_PORT option specifies the IP port on which to accept network connection requests.

### 10.41.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-p <i>port</i>					✓
Command Line, Long Form	-svcport <i>port</i>					✓
Configuration File Keyword	service_port <i>port</i>				✓	✓

### 10.41.3 Values

*port* is the IP port on which to accept network connection requests.

Valid values for *port* are:

- Numeric value (for example, **7000**)
- Service name (for example, **uectlr**)

**Default is 8778.**

#### Note

It is recommended that the default value be used, if possible.

## 10.42 SSL\_CIPHER\_LIST - UEC configuration option

### 10.42.1 Description

The SSL\_CIPHER\_LIST option specifies one or more SSL/TLS cipher suites that are acceptable to use for network communications between UEC components.

### 10.42.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-ssl_cipher_list <i>cipherlist</i>					✓
Configuration File Keyword	ssl_cipher_list <i>cipherlist</i>				✓	✓

### 10.42.3 Values

*cipherlist* 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 Name	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.
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.
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.

## 10.43 SSL\_IMPLEMENTATION - UEC configuration option

### 10.43.1 Description

The SSL\_IMPLEMENTATION option specifies the SSL/TLS implementation to be used for network communications.

## 10.43.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-ssl_implementation <i>option</i>					✓
Configuration File Keyword	ssl_implementation <i>option</i>					✓

## 10.43.3 Values

*option* is the SSL/TLS implementation to be used.

Valid values for *option* are:

- **openssl**  
OpenSSL SSL library is used for the SSL/TLS protocol.
- **system**  
z/OS System SSL library is used for the SSL/TLS protocol. The z/OS System SSL library has installation and configuration prerequisites. (See the [Universal Agent 7.7.x Installation, Upgrade, and Applying Maintenance](#) for a description of the prerequisites before using System SSL.)

**Default is openssl.**

## 10.44 TMP\_DIRECTORY - UEC configuration option

### 10.44.1 Description

The TMP\_DIRECTORY option specifies the HFS directory in which Universal Enterprise Controller creates temporary files.

### 10.44.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	tmp_directory <i>directory</i>					✓

### 10.44.3 Values

*directory* is the name of the directory for temporary files. A fully qualified path name must be specified.


**Default is** `tmp_directory/tmp`.

## 10.45 TRACE\_DIRECTORY - UEC configuration option

### 10.45.1 Description

The TRACE\_DIRECTORY option specifies the directory that the Universal Enterprise Controller uses for trace files.

### 10.45.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	<code>trace_directory directory</code>					

### 10.45.3 Values

*directory* is the name of the directory for trace files.

#### 10.45.3.1 Default

`c:\Program Files\Universal\uectlr`

## 10.46 TRACE\_FILE\_LINES - UEC configuration option

### 10.46.1 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.)

## z/OS

The trace file is written to ddname UNVTRACE. However, TRACE\_FILE\_LINES has no effect if ddname UNVTRACE has allocated a JES SYSOUT file.

### 10.46.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-tracefilelines <i>lines</i>					✓
Configuration File Keyword	trace_file_lines <i>lines</i>				✓	✓

### 10.46.3 Values

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

**Default is 50,000.**

## 10.47 TRACE\_TABLE - UEC configuration option

### 10.47.1 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**.

### 10.47.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	trace_table size, condition				✓	✓

### 10.47.3 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.**

## 10.48 UNIX\_DB\_DATA\_SET - UEC configuration option

### 10.48.1 Description

The UNIX\_DB\_DATA\_SET option specifies the HFS or zFS data set used for the UEC databases. The data set can be mounted prior to starting UEC. If not, UEC will mount the data set at a specified mount point derived from the MOUNT\_POINT option.

UNIX\_DB\_DATA\_SET is the only way to specify a zFS data set. HFS data sets can be allocated in UEC's started task procedure as ddname **UNVDB**. zFS data sets cannot be allocated on a ddname.

#### Note

When using a zFS data set, the **UNVDB** ddname statement in UEC's started task procedure should be removed.

## 10.48.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-unix_db_data_set <i>DSN</i>					✓
Configuration File Keyword	unix_db_data_set <i>DSN</i>					✓

## 10.48.3 Values

*DSN* is the HFS or zFS data set used for the databases.

## 10.49 UPDATE\_INTERVAL - UEC configuration option

### 10.49.1 Description

The UPDATE\_INTERVAL option specifies the time interval (in seconds) at which connected I-Activity Monitor clients are updated.

When a change is made to the broker or group lists through the I-Administrator application, the change will not be committed until the end of the specified interval. If additional changes are made within that interval, all changes made during the interval will be committed at the same time.

When the changes are committed, all connected I-Activity Monitor clients will be updated with the new information. This will minimize message traffic to existing I-Activity Monitor clients during mass I-Administrator updates.

### 10.49.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	update_interval <i>seconds</i>				✓	✓

### 10.49.3 Values

*seconds* is the time interval at which clients are updated.

**Default = 120.**

## 10.50 USER\_AUTHENTICATION\_METHOD - UEC configuration option

### 10.50.1 Description

The USER\_AUTHENTICATION\_METHOD option specifies the authentication method to be used when authenticating UEC user accounts.

### 10.50.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	n/a					
Configuration File Keyword	user_authentication_method <i>method</i>				✔	✔

### 10.50.3 Values

*method* is the authentication method to be used.

Valid values for *method* are:

- **uec**  
Use UEC authentication only
- **os**  
Use the native operating system authentication method where UEC is running.
- **uec,OS**  
Use both UEC authentication and native operating system authentication

**Default = uec, OS.**

## 10.51 VERSION - UEC configuration option

### 10.51.1 Description

The VERSION option writes the program version information and copyright.

### 10.51.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-v					✓
Command Line, Long Form	-version					✓
Confirmation File Keyword	n/a					

### 10.51.3 Values

(There are no values to be specified for this option.)

# 11 Universal Enterprise Controller Additional Information

## 11.1 Overview

The following table identifies and provides links to additional information related to Universal Enterprise Controller.

Information	Description
<a href="#">Character Code Pages</a>	Character Code pages for use with Universal Enterprise Controller.
<a href="#">UTT Files</a>	Universal Translate Table (UTT) files are used to translate between Unicode and the local single-byte code page.

## 11.2 Character Code Pages - UEC

The following table identifies the character code pages provided by Stonebranch Inc. for use with Universal Agent on each supported operating system.

Code Page	CCSID	z/OS	UNIX	Windows	IBM i / HFS	IBM i / LIB	HP NonStop
IBM037	037	✓			✓	✓	
IBM273	273	✓			✓	✓	
IBM277	277	✓			✓	✓	
IBM278	278	✓			✓	✓	
IBM280	280	✓			✓	✓	
IBM284	284	✓			✓	✓	
IBM500	500	✓			✓	✓	
IBM875	875	✓					
IBM1025		✓					
IBM1047		✓			✓	✓	
IBM1140	1140	✓			✓	✓	
IBM1141	1141	✓			✓	✓	

Code Page	CCSID	z/OS	UNIX	Windows	IBM i / HFS	IBM i / LIB	HP NonStop
IBM1142	1142	✓			✓	✓	
IBM1143	1143	✓			✓	✓	
IBM1144	1144	✓			✓	✓	
IBM1145	1145	✓			✓	✓	
IBM1146	1146	✓			✓	✓	
IBM1147	1147	✓			✓	✓	
IBM1148	1148	✓			✓	✓	
IBM4971	4971	✓					
ISO8859-1	819		✓	✓	✓		✓
ISO8859-2	912		✓	✓	✓		✓
ISO8859-3	913		✓	✓	✓		✓
ISO8859-4	914		✓	✓	✓		✓
ISO8859-5	915		✓	✓	✓		✓
ISO8859-6	1089		✓	✓	✓		✓
ISO8859-7	813		✓	✓	✓		✓
ISO8859-8	916		✓	✓	✓		✓
ISO8859-9	920		✓	✓	✓		✓
ISO8859-10			✓	✓	✓		✓
ISO8859-13	921		✓	✓	✓		✓
ISO8859-14			✓	✓	✓		✓
ISO8859-15	923		✓	✓	✓		✓
PC437	437			✓	✓		
PC737	737			✓	✓		
PC775	775			✓	✓		
PC850	850			✓	✓		
PC852	852			✓	✓		

Code Page	CCSID	z/OS	UNIX	Windows	IBM i / HFS	IBM i / LIB	HP NonStop
PC855	855			✓	✓		
PC857	857			✓	✓		
PC860	860			✓	✓		
PC861	861			✓	✓		
PC862	862			✓	✓		
PC863	863			✓	✓		
PC864	864			✓	✓		
PC865	865			✓	✓		
PC866	866			✓	✓		
PC869	869			✓	✓		
PC874	874			✓	✓		
WIN1250	1250			✓	✓		
WIN1251	1251			✓	✓		
WIN1252	1252			✓	✓		
WIN1253	1253			✓	✓		
WIN1254	1254			✓	✓		
WIN1255	1255			✓	✓		
WIN1256	1256			✓	✓		
WIN1257	1257			✓	✓		
WIN1258	1258			✓	✓		

## 11.3 UTT Files - UEC

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

Operating System	UTT File Location
z/OS	UTT files are members of the PDS allocated to the Broker ddname <b>UNVNLS</b> . <i>codepage</i> specifies the member name.
Windows	UTT files are located in the <b>NLS</b> subdirectory of the installation directory. <i>codepage</i> is the base file name of the UTT file.

## 12 Universal Enterprise Controller Troubleshooting

- [Overview](#)
- [Java Under Windows](#)
  - [Java Compatibility](#)
  - [Known Problems](#)
- [Java Under Linux](#)
  - [Java Compatibility](#)
  - [Known Problems](#)
- [Java Under Mac OS X](#)
  - [Java Compatibility](#)
- [UEC Problems](#)
  - [UEC Incorrectly Reports a Universal Broker as Unreachable](#)

### 12.1 Overview

This page provides information on troubleshooting Universal Enterprises Controller (UEC).

### 12.2 Java Under Windows

#### 12.2.1 Java Compatibility

The Universal Enterprise Controller Client Applications have been tested and verified with Sun Java Runtime versions 1.5.

#### 12.2.2 Known Problems

##### 12.2.2.1 Java Upgrade Problems

There have been various problems reported, when installing one version of Sun's Java over another, that will cause some Java applications to work incorrectly. Un-install the original version of the JVM and install the new version. A fresh install will usually resolve these issues.

## 12.3 Java Under Linux

### 12.3.1 Java Compatibility

The Universal Enterprise Controller Client Applications have been tested and verified with Sun Java Runtime versions 1.5.

### 12.3.2 Known Problems

#### 12.3.2.1 Wrong Window/Dialog Sizes Under KDE

The main window and dialogs may display at the incorrect sizes when using Java version 1.3.1 from Sun and the KDE window manager. Upgrading to Java version 1.4.1 or using another window manager (such as Gnome) will solve this problem.

## 12.4 Java Under Mac OS X

### 12.4.1 Java Compatibility

UEC has been tested and verified with the release 1.5 versions of Apple's JVM.

## 12.5 UEC Problems

### 12.5.1 UEC Incorrectly Reports a Universal Broker as Unreachable

UEC uses the Universal Query protocol to poll the Universal Brokers in its list.

Universal Broker versions earlier than 2.1 (or 1.2 with PTF 5 on the AS/400) do not support this protocol; they will appear to be unreachable by UEC.

If a Universal Broker being reported – incorrectly – as unreachable is of the proper version, ensure that:

- Address and port have been entered correctly
- TCP connection can be made from the machine running UEC to the machine with the incorrectly reported Broker.

Universal Query can be used to verify the connection. If you can query the Broker using Universal Query from the machine on which UEC is running, UEC should be able to poll the Broker.

## 13 UECLoad Utility

### 13.1 Overview

The UECLoad utility provides the user with a command line interface to add, delete, view, and export data from the Universal Enterprise Controller database tables.

UECLoad executes as a command line application.

Through the use of UECLoad, the user can:

- Add, delete, list, or export individual Agent definitions.
- Provide an Agent definition file to add, delete, list, or export multiple Agents.
- Delete, list, or export the currently defined Agents in the UEC database.
- Export [Universal Event Subsystem \(UES\) events](#), with the option to delete them from UEC.

### 13.2 Detailed Information

The following pages provide detailed information for UECLoad:

- [UECLoad for z/OS](#)
- [UECLoad Configuration](#)
- [UECLoad Command Line Syntax](#)
- [UECLoad Configuration Options](#)

### 13.3 UECLoad for zOS

#### 13.3.1 JCL

The following figure illustrates the JCL required to execute UECLoad for z/OS.

```
//STEP1      EXEC  PGM=UECLOAD,PARM='ENVAR(TZ=EST5EDT) '
//STEPLIB   DD   DISP=SHR,DSN=#SHLQ.UNV.SUNVLOAD
//*
//UNVCONF   DD   DISP=SHR,DSN=#PHLQ.UNV.UNVCONF(UECCFG00)
//*
//UNVTRACE  DD   SYSOUT=*
//SYSPRINT  DD   SYSOUT=*
//SYSOUT    DD   SYSOUT=*
//CEEDUMP   DD   SYSOUT=*
//*
//LOAD      DD   *
<BROKERDEF>
  broker_name    unxprod
  broker_host    prd-unix
  broker_port    7887
```

```

</BROKERDEF>
<BROKERDEF>
  broker_name    unxtest
  broker_host    tst-unix
  broker_port    7887
</BROKERDEF>
<BROKERDEF>
  broker_name    unxdev
  broker_host    dev-unix
  broker_port    7887
</BROKERDEF>
/*
//*
//USER      DD  *
-u admin -w admin
/*
//*
//SYSIN     DD  *
-add -deffile load -f user
    
```

### 13.3.1.1 DD Statements used in JCL

The following table describes the DD statements used in the UECLoad for z/OS JCL, above.

ddname	DCB Attributes	Mode	Description
STEPLIB	DSORG=PO, RECFM=U	input	Universal Agent load library containing the program being executed.
UNVCONF	DSORG=PS, RECFM=(F, FB, V, VB)	input	UEC configuration member.
UNVTRACE	DSORG=PO, RECFM=(F, FB, V, VB), LRECL=256 or above.	output	UECLoad trace output.
SYSPRINT	DSORG=PS, RECFM=(F, FB, V, VB)	output	Standard output file for the UECLoad program.
SYSOUT	DSORG=PS, RECFM=(F, FB, V, VB)	output	Standard error file for the UECLoad program.
SYSIN	DSORG=PS, RECFM=(F, FB, V, VB)	input	Standard input file for the UECLoad program.

## 13.4 UECLoad Configuration

- [Overview](#)

- [Configuration Source](#)
- [Configuration Option Categories](#)
  - [Action Category Options](#)
  - [Definitions Category Options](#)
  - [Events Category Options](#)
  - [Host Category Options](#)
  - [Miscellaneous Category Options](#)
  - [Options Category Options](#)
  - [User Category Options](#)

### 13.4.1 Overview

Configuration consists of:

- Setting default options and preferences for all executions of UECLoad.
- Setting options and preferences for a single execution of UECLoad.

### 13.4.2 Configuration Source

Configuration options are read from the following sources:

1. Command line
2. Command file
3. Environment variables
4. Definition file

The order of precedence is the same as the list above; command line being the highest, and definition file being the lowest. That is, options specified via a command line override options specified via a command file, and so on.

### 13.4.3 Configuration Option Categories

The following table categorizes the configuration options that are used to execute UECLoad into logical areas of application.

Category	Description
<a href="#">Action</a>	Action being taken on the specified Agent definition.
<a href="#">Definitions</a>	Definition of the Agent being modified in the UEC database.
<a href="#">Events</a>	Options available when using the action --export EVENTS
<a href="#">Host</a>	UEC connection options.
<a href="#">Miscellaneous</a>	Options used to display command help and program versions.
<a href="#">Options</a>	Alternative methods to specify configuration options.
<a href="#">User</a>	User account that UECLoad executes with in UEC.

The UECLoad options for each category are summarized in the following tables.

Each **Option Name** is a link to detailed information about that option in [UECLoad Configuration Options](#).

### 13.4.3.1 Action Category Options

Option Name	Description
<a href="#">ADD</a>	Specification to add Agent definitions to UEC or to specified group(s) if the <a href="#">GROUPS</a> option is used on the command line.
<a href="#">DELETE</a>	Specification to delete Agent definitions from UEC or from specified group(s) if the <a href="#">GROUPS</a> option is used on the command line.
<a href="#">EXPORT</a>	Specification to output the described agent definitions in a format to be used by an Agent definition file.
<a href="#">LIST</a>	Specification to output the described Agent definitions in a user-friendly format.

### 13.4.3.2 Definitions Category Options

Option Name	Description
<a href="#">BROKER_DESCRIPTION</a>	Description of the defined Universal Broker.
<a href="#">BROKER_HOST</a>	TCP/IP host name of the defined Universal Broker.
<a href="#">BROKER_NAME</a>	Unique name of the defined Universal Broker.
<a href="#">BROKER_PORT</a>	TCP/IP port number of the defined Universal Broker.
<a href="#">GROUPS</a>	Group(s) in which the defined Universal Broker is a member. When this option is used on the command line with the <a href="#">ADD</a> or <a href="#">DELETE</a> option, the Universal Broker(s) will be added or deleted to the Group(s).

### 13.4.3.3 Events Category Options

Option Name	Description
<a href="#">ARCFILE</a>	Archived file to retrieve for export.
<a href="#">END_TIME</a>	End time of exported data.
<a href="#">EVENT_TYPE</a>	Event types to be exported.
<a href="#">EXPORT_DELETE</a>	Delete records in Events database.
<a href="#">FORMAT</a>	Output format of event report (formats supported are CSV, XML, and ARC).
<a href="#">START_TIME</a>	Start time of exported data.

### 13.4.3.4 Host Category Options

Option Name	Description
<a href="#">UEC_PORT</a>	TCP/IP port number of UEC.

### 13.4.3.5 Miscellaneous Category Options

Option Name	Description
<a href="#">HELP</a>	Write command option help.
<a href="#">VERSION</a>	Write program version.

### 13.4.3.6 Options Category Options

Option Name	Description
<a href="#">BROKER_DEFFILE</a>	File containing multiple Broker definitions to be added or deleted in the UEC database.
<a href="#">CODE_PAGE</a>	Code page used for text translation.
<a href="#">COMMAND_FILE_ENCRYPTED</a>	Encrypted command file.
<a href="#">COMMAND_FILE_PLAIN</a>	Plain text command file.
<a href="#">ENCRYPTION_KEY</a>	Encryption key used to decrypt an encrypted command file specified by the <a href="#">COMMAND_FILE_ENCRYPTED</a> option.
<a href="#">MESSAGE_LEVEL</a>	Level of messages written.

### 13.4.3.7 User Category Options

Option Name	Description
<a href="#">USER_ID</a>	UEC user ID or account with which brokers will be modified.
<a href="#">USER_PASSWORD</a>	Password associated with <a href="#">USER_ID</a> .

## 13.5 UECLoad Command Line Syntax

### 13.5.1 Command Line Syntax

The following figure illustrates the syntax – using the long form of command line options – of the UECLoad utility.

```

uecload
{ -add | -delete | -list | -export | [EVENTS] }
[-userid user [-pwd pwd] ]
[-port port]
[-broker_desc description]
[-broker_host address]
[-broker_name name]
[-broker_port port]
[-groups grouplist]
[-arcfile filename]
[-codepage codepage]
[-level {trace|audit|info|warn|error} ]
[-deffile filename]
[-file ddname / filename | -encryptedfile ddname / filename [-key key] ]
[-format [XML|CSV|ARC] ]
[-export_delete]
[-event_type type]
[-stime startdate [,starttime] ]
[-etime enddate [,endtime] ]

uecload
{ -help | -version }

```

## 14 UECLoad Configuration Options

- [UECLoad Configuration Options](#)
- [Configuration Options Information](#)
  - [Description](#)
  - [Usage](#)
  - [Values](#)
  - [<Additional Information>](#)
- [Configuration Options List](#)

### 14.1 UECLoad Configuration Options

This page provides links to detailed information on the configuration options available for use with the UECLoad utility.

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

For information on how these options are used, see [UECLoad Utility](#).

### 14.2 Configuration Options Information

For each configuration option, the following information is provided.

#### 14.2.1 Description

Describes the configuration option and how it is used.

#### 14.2.2 Usage

Provides a table of the following information:

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	<Format / Value>					
Command Line, Long Form	<Format / Value>					
Environment Variable	<Format / Value>					
Definition File Keyword	<Format / Value>					

### 14.2.2.1 Method

Identifies the different methods used to specify UECLoad configuration options:

- Command Line Option, Short Form
- Command Line Option, Long Form
- Environment Variable
- Definition File Keyword

#### Note

Each option can be specified using one or more methods.

### 14.2.2.2 Syntax

Identifies the syntax of each method that can be used to specify the option:

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

#### Note

If a Method is not valid for specifying the option, the Syntax field contains **n/a**.

### 14.2.2.3 (Operating System)

Identifies (with a ?) the operating systems for which each method of specifying the option is valid:

- IBM i
- HP NonStop
- UNIX
- Windows
- z/OS

### 14.2.3 Values

Identifies all possible values for the specified value type.

Defaults are identified in **bold type**.

### 14.2.4 <Additional Information>

Identifies any additional information specific to the option.

## 14.3 Configuration Options List

The following table identifies all UECLoad configuration options.

Option	Description
ADD	Add Agent definitions to UEC or to specified group(s) if the GROUPS option is used on the command line.
ARCFILE	Archived file to retrieve for export.
BROKER_DEFFILE	File containing multiple broker definitions to be added or deleted in the UEC database.
BROKER_DESCRIPTION	Description of the defined Universal Broker.
BROKER_HOST	TCP/IP host name of the defined Universal Broker.
BROKER_NAME	Unique name of the defined Universal Broker.
BROKER_PORT	TCP/IP port number of the defined Universal Broker.
CODE_PAGE	Code page used for text translation.
COMMAND_FILE_ENCRYPTED	Encrypted command file.
COMMAND_FILE_PLAIN	Plain text command file.
DELETE	Delete Agent definitions from UEC or from specified group(s) if the GROUPS options is used on the command line.
ENCRYPTION_KEY	Encryption key used to decrypt an encrypted command file specified by COMMAND_FILE_ENCRYPTED.
END_TIME	End time of exported data
EVENT_TYPE	Event types to be exported.
EXPORT	Output the described broker definition in a format to be used by a broker definition file.
EXPORT_DELETE	Specification that the exported records from the UEC events database table are to be deleted upon -export EVENTS action.
FORMAT	Format of the output from the -export EVENTS action
GROUPS	Group(s) in which the defined Universal Broker is a member. When this option is used on the command line with the ADD or DELETE option, the Universal Broker(s) will be added or deleted to the Group(s).
HELP	Displays command line options description and format.
LIST	Output the described broker definition in a user-friendly format.
MESSAGE_LEVEL	Level of messages written.
START_TIME	Start time of exported data.
UEC_PORT	TCP/IP port number of the UEC.

Option	Description
<a href="#">USER_ID</a>	UEC user ID/account with which Brokers will be modified.
<a href="#">USER_PASSWORD</a>	Password associated with USER_ID.
<a href="#">VERSION</a>	Writes program version.



## 14.4 ADD - UECLoad configuration option

### 14.4.1 Description

The ADD option specifies that the action being taken is to add Agent definitions to UEC or to specified group(s) if the [GROUPS](#) option is used on the command line.

Valid actions are ADD, [DELETE](#), [EXPORT](#), and [LIST](#). Only one action can be specified at any one time.

### 14.4.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-add					
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.4.3 Values

(There are no values associated with ADD.)

## 14.5 ARCFILE - UECLoad configuration option

### 14.5.1 Description

The ARCFILE option specifies the name of an archived file to retrieve for export.

Retrieval of archived data will export data directly into CSV or XML format.

### Note

If ARCFILE is used, the [UEC\\_PORT](#), [USER\\_ID](#), and [USER\\_PASSWORD](#) options are ignored, since no connection is made to the UEC for this operation.

## 14.5.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-arcfile <i>filename</i>				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

## 14.5.3 Values

*filename* is the name of the file to retrieve.

## 14.6 BROKER\_DEFFILE - UECLoad configuration option

### 14.6.1 Description

The BROKER\_DEFFILE option specifies the Broker definition file (**deffile**).

The **deffile** is used to specify multiple Broker definitions to be added or deleted to the UEC.

If used with the [EXPORT](#) option, the definition file is created with the results of the export action.

BROKER\_DEFFILE is not valid for use with the [LIST](#) option.

### 14.6.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-deffile <i>filename</i>				✓	✓
Environment Variable	n/a					

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Definition File Keyword	n/a					

### 14.6.3 Values

*filename* is the name of the definition file.

## 14.7 BROKER\_DESCRIPTION - UECLoad configuration option

### 14.7.1 Description

The BROKER\_DESCRIPTION option specifies a description of the Broker being added or deleted in the UEC database.

### 14.7.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-broker_desc <i>description</i>				✓	✓
Environment Variable	UECLBROKERDESC= <i>description</i>				✓	✓
Definition File Keyword	broker_desc <i>description</i>				✓	✓

### 14.7.3 Values

*description* is the description of the Broker being added or deleted.

#### Note

Since *description* can contain spaces, it should be enclosed in double ( " ) quotation marks.

## 14.8 BROKER\_HOST - UECLoad configuration option

### 14.8.1 Description

The BROKER\_HOST option specifies the host network address of the Broker being added, deleted, or viewed in the UEC database.

### 14.8.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-broker_host address				✓	✓
Environment Variable	UECLBROKERHOST=addresses				✓	✓
Definition File Keyword	broker_host address				✓	✓

### 14.8.3 Values

address is the host network address of the Broker.

address can be specified in either of the following formats:

- Dotted format (1.2.3.4)
- Host domain name

If BROKER\_HOST is used with the [LIST](#) or [EXPORT](#) option, address can contain wildcards (for example, 1.2.3.\* or host1\*). In these examples, all broker host addresses that begin with 1.2.3 or host1, respectively, would be matched.

## 14.9 BROKER\_NAME - UECLoad configuration option

### 14.9.1 Description

The BROKER\_NAME option specifies the unique name of a Broker being added, deleted, or viewed in the UEC database.

### 14.9.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Long Form	-broker_name <i>name</i>				✓	✓
Environment Variable	UECLBROKERNAME= <i>name</i>				✓	✓
Definition File Keyword	broker_name <i>name</i>				✓	✓

### 14.9.3 Values

*name* is the name of the Broker.

If BROKER\_NAME is used with the [LIST](#) or [EXPORT](#) option, *name* can contain wildcards (for example, **broker\***). In this example, all broker names that begin with **broker1** would be matched.

## 14.10 BROKER\_PORT - UECLoad configuration option

### 14.10.1 Description

The BROKER\_PORT option specifies the TCP/IP port of the Broker being added, deleted, or viewed in the UEC database.

### 14.10.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-broker_port <i>port</i>				✓	✓
Environment Variable	UECLBROKERPORT= <i>port</i>				✓	✓
Definition File Keyword	broker_port <i>port</i>				✓	✓

### 14.10.3 Values

*port* is the TCP/IP port of the Broker.

*port* can be specified in either of the following formats:

- Number (for example, 7887)
- Service name (for example, **ubroker**)

## 14.11 CODE\_PAGE - UECLoad configuration option

### 14.11.1 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.

### 14.11.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-t <i>codepage</i>				✓	✓
Command Line, Long Form	-codepage <i>codepage</i>				✓	✓
Environment Variable	UECLDCODEPAGE= <i>codepage</i>				✓	✓
Definition File Keyword	n/a					

### 14.11.3 Values

*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](#)). UTT files are used to translate between Unicode and the local single-byte code page. (All UTT files end with an extension of **.utt**.)

#### 14.11.3.1 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 - UEC](#) for a complete list of character code pages provided by Stonebranch Inc. for use with Universal Agent.

## 14.12 COMMAND\_FILE\_ENCRYPTED - UECLoad configuration option

### 14.12.1 Description

The COMMAND\_FILE\_ENCRYPTED option specifies the ddname / file name of a data set / file containing encrypted values for command line option parameters.

Command files specify an additional source of command line options. Storing options in a file can be used in situations where it is not desirable to explicitly specify them on the command line. The options read from the file are processed exactly like options specified on the command line. The options must be in their respective command line formats.

UECLoad can process command files that are either encrypted or in plain text (see the [COMMAND\\_FILE\\_PLAIN](#) option). Encrypted command files are an excellent place to store sensitive data such as user IDs and passwords. Command files (encrypted or not) that contain sensitive data should be protected from unauthorized read access with a security system, such as RACF.

Use the [Universal Encrypt](#) utility provided with Universal Command to encrypt a plain text command file. If a key was used to encrypt the file, the same key must be supplied using the [ENCRYPTION\\_KEY](#) option.

#### Note

If a data set / file is specified in this option, it should not be specified additionally in the [COMMAND\\_FILE\\_PLAIN](#) option. If it is, the data set / file specified in [COMMAND\\_FILE\\_PLAIN](#) will be used.

### 14.12.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	<code>-x ddname or filename</code>				✓	✓
Command Line, Long Form	<code>-encryptedfile ddname or filename</code>				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.12.3 Values

*filename* is the name of the file containing the encrypted command parameter values.

## 14.13 COMMAND\_FILE\_PLAIN - UECLoad configuration option

### 14.13.1 Description

The [COMMAND\\_FILE\\_PLAIN](#) option specifies the ddname / file name of a data set / file containing plain text values for command line option parameters.

Command files specify an additional source of command line options. Storing options in a file can be used in situations where it is not desirable to explicitly specify them on the command line. The options read from the file are processed exactly like options specified on the command line. The options must be in their respective command line formats.

UECLoad can process command files that are either in plain text or encrypted (see the [COMMAND\\_FILE\\_ENCRYPTED](#) option). It is strongly recommended that plain text files be further protected from unauthorized access using a native operating system security method, such as RACF.

#### Note

If a data set / file is specified in this option, it should not be specified additionally in the [COMMAND\\_FILE\\_ENCRYPTED](#) option. If it is, the data set / file specified in [COMMAND\\_FILE\\_PLAIN](#) will be used.

### 14.13.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	<i>-f ddname or filename</i>				✓	✓
Command Line, Long Form	<i>-file ddname or filename</i>				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.13.3 Values

*filename* is the ddname / file name of the data set / file containing the parameters and their values.

## 14.14 DELETE - UECLoad configuration option

### 14.14.1 Description

The DELETE option specifies that the action being taken is to delete Agent definitions from UEC or from specified group(s) if the [GROUPS](#) options is used on the command line.

Valid actions are [ADD](#), [DELETE](#), [EXPORT](#), and [LIST](#). Only one action can be specified at any one time.

### 14.14.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-delete				✓	✓

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.14.3 Values

(There are no values associated with DELETE.)

## 14.15 ENCRYPTION\_KEY - UECLoad configuration option

### 14.15.1 Description

The ENCRYPTION\_KEY option specifies the key used to encrypt the command file specified by the [COMMAND\\_FILE\\_ENCRYPTED](#) option.

This key acts much like a password for the encrypted command file in that it can be used to protect the file from decryption by unauthorized users.

If a key was used to encrypt a command file (when Universal Encrypt was run), that same key must be specified to decrypt the file, or the decryption will fail. If no key is specified, the default key is used.

### 14.15.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-K <i>key</i>				✓	✓
Command Line, Long Form	-key <i>key</i>				✓	✓
Environment Variable	UCMDKEY= <i>key</i>				✓	✓
Definition File Keyword	n/a					

### 14.15.3 Values

*key* is the key used to encrypt the command file.

## 14.16 END\_TIME - UECLoad configuration option

### 14.16.1 Description

The END\_TIME option specifies the ending date and time selection criteria of the export of the UEC events database table.

#### Note

END\_TIME is required when the -export EVENTS action is used (see the [EXPORT](#) option).

### 14.16.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-e <i>enddate</i> [UEC:; <i>endtime</i> ]				✓	✓
Command Line, Long Form	-etime <i>enddate</i> [UEC:; <i>endtime</i> ]				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.16.3 Values

*enddate* must be specified in the following format: YYYY/MM/DD

*endtime* must be specified in the following format: HH:MM:SS

Upon export, event records can be selected by using an asterisk ( \* ) for the *enddate*.



A rolling date can be specified with an asterisk ( \* ) followed by a negative value (for example, \*-2 selects records that were generated prior to two days before the current date). If *endtime* is not specified, a value of 23:59:59 is used.

## 14.17 EVENT\_TYPE - UECLoad configuration option

### 14.17.1 Description

The EVENT\_TYPE option specifies the event types to be exported.

### 14.17.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-event_type type					
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.17.3 Values

*type* specifies a comma-separated list of event types. It allows for all or a subset of all potential event message types to be selected.

Event type ranges can be specified by separating the lower and upper range values with a dash ( - ) character.

Event types can be selected for inclusion or exclusion:

- Exclusion operator is **X** or **x**.
- An asterisk ( \* ) represents all event types.

### 14.17.4 Examples

- 100,101,102  
Generate event types 100, 101, and 102.
- 100-102  
Generate event types 100 through 102.
- 100-102,200  
Generate event types 100 through 102 and 200.
- \*  
Generate all event types.
- \*,X100  
Generate all event types except for 100.
- x\*  
Generate no event types.
- \*,X200-250,X300  
Generate all event types except for 200 through 250 and 300.

Default is X\* (no event types).

## 14.18 EXPORT - UECLoad configuration option

### 14.18.1 Description

The EXPORT option specifies that the action being taken is the export of a UEC database. By default, EXPORT outputs the UEC broker definitions in a format that can be used at a later time as a broker definition file.

#### Note

Valid actions are [ADD](#), [DELETE](#), EXPORT, and [LIST](#). Only one action can be specified at any one time.

### 14.18.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-export [EVENTS]					
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.18.3 Values

EVENTS specifies that the events database table from UEC is exported.

The format of the output is either XML, CSV, or ARC (specified via the FORMAT option). If the format is not specified, XML is used by default.

## 14.19 EXPORT\_DELETE - UECLoad configuration option

### 14.19.1 Description

The EXPORT\_DELETE option specifies that the exported records from the UEC events database table are to be deleted upon -export EVENTS action (see the EXPORT option).

## 14.19.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-export_delete				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

## 14.19.3 Values

(There are no values for EXPORT\_DELETE.)

## 14.20 FORMAT - UECLoad configuration option

### 14.20.1 Description

The FORMAT option specifies the format of the output from the **-export EVENTS** action (see the [EXPORT](#) option).

### 14.20.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-format <i>format</i>				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.20.3 Values

*format* is the format of the output from **\*-export\* EVENTS**.

*format* can be either:

- **XML**: Event data is exported as an XML (extensible markup language) document. XML is often used for exchanging data between two systems.

- **CSV:** Event data is exported as a CSV (comma separated value) text file. The CSV file can be used by most spreadsheet software, such as Microsoft Excel.
- **ARC:** Event data is exported in ARC (archival) format for long-term storage. The exported ARC format data (written in UTF-8) is portable between operating systems with differing code pages.

The purpose of exporting data in the **ARC** format is to back up all UES data. The user must have permission to all Universal Brokers in order to export data for all UES records. This is best accomplished via the I-Management Console application by assigning the **All Agents** group to the user that is performing the UES export archive (see [Assigning Agent Groups to a User](#)).

**Default is XML.**

## 14.21 GROUPS - UECLoad configuration option

### 14.21.1 Description

The GROUPS option specifies a list of groups to which an **ADD** or **DELETE** option will be applied. Universal Brokers (supplied on the command line or in a definition file) are added or deleted from this list of groups.

If GROUPS is not specified on the command line, **ADD** or **DELETE** processing is performed for the Universal Broker definitions themselves.

#### 14.21.1.1 Add Action

The Add action behaves as follows:

1. When a fully qualified broker definition is specified on the command line (that is, broker\_name, broker\_host, and broker\_port):
  - a. An attempt is made to add the broker definition to the UEC database.
  - b. If the GROUPS option also is specified on the command line, an attempt is made to add the specified broker to each group in the groups list.
2. When a partial broker definition is specified on the command line along with the GROUPS option:
  - a. A list of broker definitions from the UEC database that matches the command line broker values is returned from the UEC database.
  - b. An attempt is made to add each broker in the returned broker list to each group in the specified groups list.
3. When a broker definition file is specified on the command line:
  - a. An attempt is made to add each broker definition in the definition file to the UEC database.
  - b. For each broker definition in the definition file that contains a GROUPS option, the following processing will be performed:  
If the broker definition was successfully added to the UEC database, an attempt will be made to add the specified broker to each group in the groups list.
  - c. If the GROUPS option is specified on the command line, the command line groups value is applied to each broker definition in the definition file, overriding the groups option specified in any individual broker definition.

Also, using -deffile file and specifying the GROUPS option on the command line constrains the **ADD** action to only adding broker definitions to groups. New broker definitions are added to the UEC database. Therefore, only broker definitions in the definition file that already exist in the UEC database will be added to the specified groups list.

If a broker definition in the definition file does not exist in the database, UECLoad will write an error message to inform the user and continue processing the definition file.

If the broker definition already exists in the UEC database, an attempt will be made to add the specified broker to each group in the groups list. In this case the [ADD](#) action will be constrained.

### 14.21.1.2 Delete Action

The Delete action behaves as follows when the GROUPS option is specified on the command line:

1. When a broker definition (partial or complete) is specified on the command line along with the GROUPS option:
  - a. A list of broker definitions from the UEC database that match the command line broker values is returned from the UEC database.
  - b. An attempt will be made to delete each broker in the returned broker list from each group in the specified groups list.
2. When a broker definition file is specified on the command line along with the GROUPS option:
  - a. An attempt will be made to delete each broker in the definition file from each group in the groups list specified on the command line.

If a broker definition in the definition file contains a groups option, it will be ignored.

### 14.21.1.3 Export Action

The Export action includes the GROUPS option as part of the broker definition. For each broker definition that is exported, a GROUPS option will be included if the broker is associated with groups other than the default "All Brokers" group.

## 14.21.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-groups <i>groupslist</i>				✓	✓
Environment Variable	n/a					
Definition File Keyword	groups <i>groupslist</i>				✓	✓

### 14.21.3 Values

*groupslist* is a comma-separated list of groups either to which the Agent is added or from which the Agent is removed or exported. (The All Agents group is implied; it does not have to be included in the list.)

To specify a comma that is part of a group name, enter two consecutive commas. For example, to include **Atlanta, GA** in list of groups, specify:

```
-groups "GroupA,GroupB,Atlanta,, GA,GroupC"
```

If a single Agent definition is being added, deleted, or exported via the command line, an attempt will be made to add the Agent to, or delete / export the Agent from, each group in *groupslist*. If a group in the list does not exist, an error message is written and processing continues with the next group in the list. (If -groups is not specified, the All Agents group is used.)

If a definition file is being processed, an attempt will be made to add all Agents in the definition file to, or delete / export all Agents in the definition file from, each group in *groupslist*. If a group in the list does not exist, a warning message will be written and processing will continue with the next group in the list.

## 14.22 HELP - UECLoad configuration option

### 14.22.1 Description

The HELP option displays a description of the UECLoad command line options and their format.

### 14.22.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-h				✓	✓
Command Line, Long Form	-help				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.22.3 Values

(There are no values for the HELP option.)

## 14.23 LIST - UECLoad configuration option

### 14.23.1 Description

The LIST option specifies that the action being taken is to output current UEC Broker definitions in a user-friendly format.

Valid actions are [ADD](#), [DELETE](#), [EXPORT](#), and LIST. Only one action can be specified at any one time.

### 14.23.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	n/a					
Command Line, Long Form	-list				✓	✓
Environment Variable	n/a					

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Definition File Keyword	n/a					

### 14.23.3 Values

(There are no values associated with LIST.)

## 14.24 MESSAGE\_LEVEL - UECLoad configuration option

### 14.24.1 Description

The MESSAGE\_LEVEL option specifies the level of messages to write.

### 14.24.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-l <i>level</i>				✓	✓
Command Line, Long Form	-level <i>level</i>				✓	✓
Environment Variable	UECLLEVEL= <i>level</i>				✓	✓
Definition File Keyword	n/a					

### 14.24.3 Values

*level* indicates either of the following level of messages:

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

#### 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.

## 14.24.4 Trace Files

UNIX	Trace file name is <b>uecload.trc</b> . It is created in the working directory of the user who executed <b>uecload</b> .
z/OS	Trace file is written to the data set referenced by the <b>UNVTRACE</b> ddname.

## 14.25 START\_TIME - UECLoad configuration option

### 14.25.1 Description

The START\_TIME option specifies the starting date and time selection criteria of the export of the UEC events database table.

#### Note

START\_TIME is required when the -export EVENTS action is used (see the [EXPORT](#) option).

### 14.25.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-s <i>startdate</i> [UEC:; <i>startime</i> ]				✓	✓
Command Line, Long Form	-stime <i>startdate</i> [UEC:; <i>startime</i> ]				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.25.3 Values

*startdate* must be specified in the following format: YYYY/MM/DD

*starttime* must be specified in the following format: HH:MM:SS

Upon export, event records can be selected by using an asterisk ( \* ) for the *startdate*.

A rolling date can be specified with an asterisk ( \* ) followed by a negative value (for example, \*-2 selects records that were generated prior to two days before the current date). If *starttime* is not specified, a value of 00:00:00 is used.

## 14.26 UEC\_PORT - UECLoad configuration option

### 14.26.1 Description

The UEC\_PORT option specifies the TCP port on which to send the command.

UEC must be running and accepting connections on the specified port.

### 14.26.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-p <i>port</i>				✓	✓
Command Line, Long Form	-port <i>port</i>				✓	✓
Environment Variable	UECLPORT= <i>port</i>				✓	✓
Definition File Keyword	n/a					

### 14.26.3 Values

*port* is the TCP/IP port on which to send the command.

*port* can be specified in either of the following formats:

- Number (for example, **8778**)
- Service name (for example, **ueclload**)

**Default is 8778.**

## 14.27 USER\_ID - UECLoad configuration option

### 14.27.1 Description

The USER\_ID option specifies the user identifier that is used to sign on to UEC (see the [USER\\_PASSWORD](#) option).

## 14.27.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-u <i>user</i>				✓	✓
Command Line, Long Form	-userid <i>user</i>				✓	✓
Environment Variable	UECLUSERID= <i>user</i>				✓	✓
Definition File Keyword	n/a					

## 14.27.3 Values

*user* is the user identifier that is used to sign on to the remote computer.

### Note

*user* must be a valid user identifier in the UEC database.

## 14.28 USER\_PASSWORD - UECLoad configuration option

### 14.28.1 Description

The USER\_PASSWORD option specifies the password for the user identifier that is specified in the [USER\\_ID](#) option.

The password always is encrypted.

### 14.28.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-w <i>password</i>				✓	✓
Command Line, Long Form	-pwd <i>password</i>				✓	✓
Environment Variable	UECLPWD= <i>password</i>				✓	
Definition File Keyword	n/a					

### 14.28.3 Values

*password* is the password for the user identifier.

*password* must be a valid password for the user identifier in the UEC database.

## 14.29 VERSION - UECLoad configuration option

### 14.29.1 Description

The VERSION option writes the program version information and copyright.

### 14.29.2 Usage

Method	Syntax	IBM i	HP NonStop	UNIX	Windows	z/OS
Command Line, Short Form	-v				✓	✓
Command Line, Long Form	-version				✓	✓
Environment Variable	n/a					
Definition File Keyword	n/a					

### 14.29.3 Values

(There are no values to be specified for this option.)

# 15 Universal Event Subsystem

- [Overview](#)
- [Event Messages](#)
  - [Event Types](#)
  - [Universal Broker Event Message Processing](#)
- [Universal Event Subsystem Activation](#)
  - [UES Database Clean-up](#)
  - [UES Database Access](#)

## 15.1 Overview

The Universal Event Subsystem (UES) is a subsystem of Universal Enterprise Controller (UEC).

UES provides the means by which [event messages](#), generated by Universal Agent components whenever they perform actions that impact the computing environment on which they execute, are recorded, routed, and managed.

## 15.2 Event Messages

An event message contains information that identifies:

- Source of the event
- Data relating to the event itself

Event messages are collected by Universal Brokers from components that run local to the Brokers. UEC, in turn, collects the event messages from the Brokers and stores them as event records in the [UES database](#) (*uec.evm.db*) for long-term management and access.

### 15.2.1 Event Types

Examples of event types include:

- Universal Command Server starts a user job, which may be a command, script, or other form of work.
- Universal Broker denies access to a client due to a Universal Access Control List (UACL) denial.
- Universal Data Mover Manager transfers a file from one server to another.

### 15.2.2 Universal Broker Event Message Processing

Event messages are recorded in the order in which they are received by the Broker. This order is maintained throughout the subsystem.

#### Note

This order is based on the time that the Broker records the event, not the time that the component generates the event message.

The UES database maintains the event messages generated by local Agent components as event records. The Broker can be stopped and restarted with no loss of event records. The event records remain in the database until the Broker deletes them.

## 15.3 Universal Event Subsystem Activation

UES is not activated by default.

In order to generate and capture event messages, each Agent component that is able to generate event messages has an `EVENT_GENERATION` option. This option controls which [event message types](#) to generate.

By default, `EVENT_GENERATION` is set so that no event message types are generated. The value must be set so that event messages of interest are generated by the component.

### 15.3.1 UES Database Clean-up

The UES database continues to accumulate event messages until the Broker deletes them.

Event messages are deleted based upon two criteria:

1. Event message expires.
2. Event message is delivered to a Universal Enterprise Controller that requested delete access to event messages.

Event message expiration is controlled with the Universal Broker [MONITOR\\_EVENT\\_EXPIRATION](#) and [PERSISTENT\\_EVENT\\_EXPIRATION](#) options. These options specify the number of seconds that an event message should remain in the UES database before it is eligible for deletion. Each event message contains the time that it was recorded in the database. The Broker considers an event message expired if the difference between the current time and the recorded time is greater than the option value.

The consequences of this using this method for determining whether or not an event message is expired is that if the value of the option is increased or decreased, the life of all recorded event messages is increased or decreased as well.

### 15.3.2 UES Database Access

A Broker provides UES database access to UEC. UEC sends a request to a Broker asking for the latest event messages. The Broker responds with event messages that satisfy the UEC request.

The Universal Broker [EVENT\\_ACCESS](#) Universal Access Control List (UACL) entry control read and delete access to the UES database.

The default [EVENT\\_ACCESS](#) rule allows read access and denies delete access. These UACL defaults allow any UEC read access to event messages while denying all UECs delete access to event messages.

An event message becomes eligible for deletion from the Broker UES database once it has been delivered to a UEC that requested delete access. There should be one UEC designated as the production UEC responsible for maintaining the central UES database for all Brokers. This one production UEC should be given delete access on each Broker.