



Data types and message constants

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Message field data types

[Table 1: Data Type Definitions](#), on page 2 lists the definitions of all the types of data that can appear in a Unified CCX CTI message.

Table 1: Data Type Definitions

Data type	Meaning	Byte size
CHAR	Signed integer, -128 to 127	1
UCHAR	Unsigned integer, 0 to 255	1
SHORT	Signed integer, -32,768 to 32,767	2
USHORT	Unsigned integer, 0 to 65,535	2
INT	Signed Integer, -2,147,483,648 to 2,147,483,647	4
UINT	Unsigned Integer, 0 to 4,294,967,295	4
BOOL	Boolean (False = 0, True = 1)	2
STRING[n]	Encoded using UTF-8 and can be a multi-byte or single byte (ASCII) string of length n. Note In a UTF string, each character may take up more than one byte. (used only in the floating part of a message)	n
UNSPEC[n]	Unspecified data occupying n consecutive bytes (used only in the floating part of a message).	n
TIME	A date/time, expressed as the number of seconds since midnight January 1, 1970 Coordinated Universal Time (UTC).	4
MHDR	Message header (see Table 2: Message header (MHDR) format , on page 3).	8
NAMEDVAR	A named call context variable (see NAMEDVARIABLE data format , on page 3).	3 ... 251
NAMEDARRAY	A named call context array element (see NAMEDARRAY data format , on page 4).	4 ... 252

Message header data format

The Unified CCX CTI message header is in what is called the Message HeaDeR (MHDR) data format. This is a common format used for message headers that precede all messages exchanged between a client and a server. The following table defines the MHDR format.

Table 2: Message header (MHDR) format

Fixed part Field Name	Value	Data Type	Byte Size
BodyLength	The length of the message in bytes, excluding the size of the message header (the first 8 bytes).	UINT	4
MessageTypeID	This identifies the type of message and has a unique numeric value used to determine the format of the remainder of the message. Table 1 defines the all the messages in the message set with a unique MessageTypeID number that identifies each message. To enter a message type into a message header, enter the MessageTypeID number specified for that message in Table 1 .	UINT	4

NAMEDVARIABLE data format

NAMEDVARIABLE data and NamedArray data are specially formatted floating data fields. There can be an arbitrary number of NamedVariable and NamedArray fields in a message, subject to a combined total limit of 2000 bytes.

The NAMEDVARIABLE data type is a call context variable that has been defined in the Unified CCX Script Editor. This variable length data type can appear in the floating part of a message and has the format defined in the following table.

Table 3: Named Call-Context variable (NAMEDVAR) format

Subfield	Value	Data Type	Maximum size
FieldDataID	NAMED_VARIABLE (= 82). This is the numeric floating field ID that indicates the following data is a named call-context variable.	UCHAR	1
FieldLength	The total length of the VariableName and VariableValue fields, including the null-termination bytes. The value of this field may range from 3 to 251.	UCHAR	1

Subfield	Value	Data Type	Maximum size
VariableName	The null-terminated defined name of the variable.	STRING	33
VariableValue	The null-terminated value of the variable.	STRING	211

For information on call context variables, see Cisco Unified Contact Center Express Scripting and Development Series: Volume 1, Getting Started with Scripts and Volume 2, Editor Step Reference at http://www.cisco.com/en/US/products/sw/custcosw/ps1846/tsd_products_support_series_home.html

NAMEDARRAY data format

There may be an arbitrary number of NamedVariable and NamedArray fields in a message, subject to a combined total limit of 2000 bytes.

The NAMEDARRAY data type is a call context variable that has been defined in the Unified CCX Script Editor. This variable length data type may appear in the floating part of a message and has the format defined in the following table.

Table 4: Named Call Context Array variable (NAMEDARRAY) format

Subfield	Value	Data Type	Maximum size
FieldDataID	NAMED_ARRAY (= 83). The floating field tag that indicates that the following data is a named call context array variable.	UCHAR	1
FieldLength	The total length of the VariableIndex, VariableName and VariableValue fields, including the null-termination bytes. The value of this field may range from 4 to 252.	UCHAR	1
VariableIndex	The index of the array variable.	UCHAR	1
VariableName	The null-terminated defined name of the array variable.	STRING	33
VariableValue	The null-terminated value of the array variable.	STRING	211

For information on call context variables, see Cisco Unified Contact Center Express Scripting and Development Series: Volume 1, Getting Started with Scripts and Volume 2, Editor Step Reference at http://www.cisco.com/en/US/products/sw/custcosw/ps1846/tsd_products_support_series_home.html

Floating FieldDataID Values

The following table lists all the FieldDataID numeric values that identify data fields in the floating part of a Unified CCX CTI message.

Table 5: Floating FieldDataID values organized by the FieldDataID name

ID value	Floating FieldDataID name
1	ClientID
2	ClientPassword
3	ClientSignature
4	AgentExtension
5	reserved
6	AgentInstrument
7	Text
8	ANI
9	UserToUserInfo
10	DNIS
11	DialedNumber
12	CallerEnteredDigits
13-22	CallVar1 through CallVar10
23	CTIClientSignature
24	CTIClientTimeStamp
25	ConnectionDeviceID
26	AlertingDeviceID
27	CallingDeviceID
28	CalledDeviceID
29	LastRedirectDeviceID

ID value	Floating FieldDataID name
30	AnsweringDeviceID
31	HoldingDeviceID
32	RetrievingDeviceID
33	ReleasingDeviceID
34	FailingDeviceID
35	PrimaryDeviceID
36	SecondaryDeviceID
37	ControllerDeviceID
38	AddedPartyDeviceID
39	ConnectedPartyCallID
40	ConnectedPartyDeviceType
41	ConnectedPartyDeviceID
42	TransferringDeviceID
43	TransferredDeviceID
44	DivertingDeviceID
45	QueueDeviceID
46	CallWrapupData
47	NewConnectionDeviceID
48	reserved
49	AgentPassword
50	ActiveConnectionDeviceID
51	reserved
52	OtherConnectionDeviceID
53	HeldConnectionDeviceID

ID value	Floating FieldDataID name
54-55	reserved
56	CallConnectionCallID
57	CallConnectionDeviceType
58	CallConnectionDeviceID
59	CallDeviceType
60	CallDeviceID
61	CallDeviceConnectionState
62	CSQID
63-64	reserved
65	CSQState
66	reserved
67	DTMFString
68-77	reserved
78	AccountCode
79-80	reserved
81	ClientAddress
82	NamedVariable
83	NamedArray
84	reserved
85	SupervisorInstrument
86	reserved
87	AgentFlags
88-89	reserved
90	AgentConnectionDeviceID

ID value	Floating FieldDataID name
91	SupervisorConnectionDeviceID
92-94	reserved
95	CustomerPhoneNumber
96	CustomerAccountNumber
97-108	reserved
109-122	reserved
123	NextAgentState
124-125	reserved
126	SendingPort
127-128	reserved
129	MaxQueued
130-131	reserved
132	PreviousApplicationID
133	ApplicationName or CSQName
134	Description
135-136	reserved
137	FirstName
138	LastName
139-149	reserved
150	Duration
151-172	reserved
173	Extension
174-176	reserved
177	ApplicationConfigKey

ID value	Floating FieldDataID name
178	CSQConfigKey
179	AgentConfigKey
180	DeviceConfigKey
181-182	reserved
183	RecordType
184	CSQID, ApplicationID, or DeviceField0
185	AutoWork
186-188	reserved
189	AgentType
190	LoginID
191	NumCSQs
192	reserved
193	DeviceField1
194	AgentID
195	DeviceType
196-200	reserved
201	reserved
202	SecondaryConnectionCallID
203	reserved
204	TeamName
205	MemberType
206	EventDeviceID
207	reserved
208	FltPeripheralID

ID value	Floating FieldDataID name
209-216	reserved
224	MultilineAgentControl
228	NumPeripherals

DeviceType values

Table 6: DeviceType values , on page 10 lists the DeviceTypes that can be used in a Unified CCX CTI message with their descriptions and code numeric values. Message types that contain field names ending with ...ConnectionDeviceType or ...DeviceType use the DeviceType values listed in Table 6: DeviceType values , on page 10.

Table 6: DeviceType values

DeviceType	Description	Value
DEVID_NONE	No device ID is provided.	0xffff
DEVID_DEVICE_IDENTIFIER	The provided device ID identifies an IP phone (extension).	0
reserved		70
reserved		71
reserved		72
DEVID_CTI_PORT	The provided device ID identifies a CTI PORT	73
DEVID_ROUTE_POINT	The provided device ID identifies a ROUTE POINT	74
reserved		75
DEVID_AGENT_DEVICE	The provided device ID is the ID of an AGENT Device (phone)	76
DEVID_QUEUE	The provided device ID is the ID of a QUEUE	77
DEVID_NON_ACD_DEVICE_IDENTIFIER	The provided device ID is the ID belonging to Agent's non-ACD extension.	78

LocalConnectionState (LCS) values

The LocalConnectionState is the local end state of a connection.

[Table 7: LocalConnectionState values](#), on page 11 lists the local connection states that can be included in a Unified CCX CTI message with their descriptions and numeric code values.

Table 7: LocalConnectionState values

LocalConnectionState	Description	Value
LCS_NONE	Not applicable	0xffff
LCS_NULL	No relationship between call and device.	0
LCS_INITIATE	Device requesting service (“dialing”).	1
LCS_ALERTING	Device is alerting (“ringing”).	2
LCS_CONNECT	Device is actively participating in the call.	3
LCS_HOLD	Device is inactively participating in the call.	4
LCS_QUEUED	Device is stalled attempting to connect to a call, or a call is stalled attempting to connect to a device.	5
LCS_FAIL	A device-to-call or call-to-device connection attempt has been aborted.	6

Call EventCause (CEC) values

[Table 8: EventCause values](#), on page 11 lists the causes of events that can be included in Unified CCX CTI messages with their numeric code values. The EventCause data field is described in [CallType fields](#). An example message type containing this field is the CALL_CLEARED_EVENT message.

Table 8: EventCause values

EventCause	Value
CEC_NONE	0xffff
reserved	1
CEC_ALTERNATE	2
CEC_BUSY	3

EventCause	Value
reserved	4
CEC_CALL_CANCELLED	5
reserved	6-8
CEC_CALL_FORWARD	9
CEC_CALL_NOT_ANSWERED	10
reserved	11-12
CEC_DEST_NOT_OBTAINABLE	13
reserved	14
CEC_INCOMPATIBLE_DESTINATION	15
reserved	16
CEC_KEY_CONFERENCE	17
reserved	18-21
CEC_NEW_CALL	22
CEC_NO_AVAILABLE_AGENTS	23
reserved	24-27
CEC_REDIRECTED	28
reserved	29-31
CEC_TRANSFER	32
reserved	33-34
CEC_TIME_OUT	35
reserved	36-42
CEC_SUPERVISOR_ASSIST	43
CEC_EMERGENCY_CALL	44
CEC_SUPERVISOR_CLEAR	45

EventCause	Value
CEC_SUPERVISOR_MONITOR	46
CEC_SUPERVISOR_WHISPER	47
CEC_SUPERVISOR_BARGE_IN	48
CEC_SUPERVISOR_INTERCEPT	49
CEC_CALL_PARTY_UPDATE_IND	50
Extended Call Cleared Event Causes	
reserved	1001-1013
CECX_DROP_HANDLED_OTHER	1014
reserved	1015-1056

SystemEventID values

[Table 9: System Event ID values](#), on page 13 lists the system event IDs that can be included in the Unified CCX CTI SYSTEM_EVENT message, with their descriptions and numeric code values.

Table 9: System Event ID values

SystemEventID	Description	Value
reserved		1
reserved		2
SYS_CCX_ONLINE	Unified CCX has gone online.	3
SYS_CCX_OFFLINE	Unified CCX has gone offline.	4
reserved		5
reserved		6
reserved		7
reserved		8
reserved		9

SystemEventID	Description	Value
SYS_INSTRUMENT_OUT_OF_SERVICE	An Agent or Unified CCX device target has been removed from service.	10
SYS_INSTRUMENT_BACK_IN_SERVICE	An EnterpriseAgent or IPCC device target has been returned to service.	11

ConnectionDeviceType values

Table 10: ConnectionDevice Type values, on page 14 lists the types of connecting devices that can be included in a Unified CCX CTI message with their descriptions and numeric code values.

Table 10: ConnectionDevice Type values

ConnectionDeviceType	Description	Value
CONNECTION_ID_NONE	No ConnectionDevice type is provided.	0xffff
CONNECTION_ID_STATIC	The ConnectionDevice type value is stable over time between calls.	0
CONNECTION_ID_DYNAMIC	The ConnectionDevice type value is dynamic and may change between calls.	1

Audio Codec Type values

Table 11: Code Values for audio codec types

Audio Codec Type	Value
NONSTANDARD	0
G711ALAW64K	1
G711ALAW56K	2
G711ULAW64K	3
G711ULAW56K	4
G722_64K	5
G722_56K	6

Audio Codec Type	Value
G722_48K	7
G7231	8
G728	9
G729	10
G729ANNEXA	11
IS11172AUDIOCAP	12
IS13818AUDIOCAP	13
ACY_G729AASSN	14
DATA64	15
DATA56	16
GSM	17
ACTIVEVOICE	18

CallType values

Table 12: CallType values , on page 15 lists the call types that can be included within a message with their descriptions and values.

For further information on CallType fields, see [CallType fields](#).

Table 12: CallType values

CallType	Description	Value
CALLTYPE_INVALID	The call type is not valid.	0
CALLTYPE_CCX_IN	Inbound Unified CCX call.	1
reserved		2-3
CALLTYPE_TRANSFER_IN	Transferred inbound call.	4
reserved		5
CALLTYPE_OTHER_IN	Inbound call.	6

CallType	Description	Value
reserved		7-8
CALLTYPE_OUT	Outbound call.	9
CALLTYPE_AGENT_INSIDE	Agent inside call.	10
reserved		11
CALLTYPE_CONSULT	Consult call.	12
reserved		13-14
CALLTYPE_CONFERENCE	Conference call.	15
reserved		16
CALLTYPE_PREVIEW	Call is an outbound preview call.	17
CALLTYPE_RESERVATION	Call is an outbound reservation call.	18
CALLTYPE_ASSIST	Call to supervisor for assistance.	19
CALLTYPE_EMERGENCY	Emergency call.	20
CALLTYPE_SUPERVISOR_MONITOR	Supervisor silently monitoring call.	21
reserved		22
CALLTYPE_SUPERVISOR_BARGE_IN	Supervisor conferenced into call.	23
CALLTYPE_SUPERVISOR_INTERCEPT	Supervisor replaces agent on call.	24
reserved		25-26

Control Failure (CF) values

Table 13: Control Failure code values , on page 16 lists the Control Failure code values that can appear in the CONTROL_FAILURE_CONF message.

Table 13: Control Failure code values

FailureCode	Description	Value
CF_GENERIC_UNSPECIFIED	An error has occurred that is not one of the following error types.	0

FailureCode	Description	Value
CF_GENERIC_OPERATION	An operation error occurred (no specific details available).	1
CF_REQUEST_INCOMPATIBLE_WITH_OBJECT	The request is not compatible with the object.	2
CF_VALUE_OUT_OF_RANGE	The parameter has a value that is not in the range defined for the server.	3
CF_OBJECT_NOT_KNOWN	The parameter has a value that is not known to the server.	4
CF_INVALID_CALLING_DEVICE	The calling device is not valid.	5
CF_INVALID_CALLED_DEVICE	The called device is not valid.	6
CF_INVALID_FORWARDING_DESTINATION	The forwarding destination device is not valid.	7
CF_PRIVILEGE_VIOLATION_ON_SPECIFIED_DEVICE	The specified device is not authorized for the service.	8
CF_PRIVILEGE_VIOLATION_ON_CALLED_DEVICE	The called device is not authorized for the service.	9
CF_PRIVILEGE_VIOLATION_ON_CALLING_DEVICE	The calling device is not authorized for the service.	10
CF_INVALID_CSTA_CALL_ID	The call ID is not valid.	11
CF_INVALID_CSTA_DEVICE_ID	The device ID is not valid.	12
CF_INVALID_CSTA_CONNECTION_ID	The connection ID is not valid.	13
CF_INVALID_DESTINATION	The request specified a destination that is not valid.	14
CF_INVALID_FEATURE	The request specified a feature that is not valid.	15
CF_INVALID_ALLOCATION_STATE	The request specified an allocation state that is not valid.	16
CF_INVALID_CROSS_REF_ID	The request specified a cross-reference ID that is not in use at this time.	17
CF_INVALID_OBJECT_TYPE	The request specified an invalid object type.	18

FailureCode	Description	Value
CF_SECURITY_VIOLATION	Security error (no specific details available).	19
CF_GENERIC_STATE_INCOMPATIBILITY	The request is not compatible with the condition of a related device.	21
CF_INVALID_OBJECT_STATE	The object is in the incorrect state for the request.	22
CF_INVALID_CONNECTION_ID_FOR_ACTIVE_CALL	The active connection ID in the request is invalid.	23
CF_NO_ACTIVE_CALL	There is no active call for the request.	24
CF_NO_HELD_CALL	There is no held call for the request.	25
CF_NO_CALL_TO_CLEAR	There is no call associated with the given connection ID.	26
CF_NO_CONNECTION_TO_CLEAR	There is no call connection for the given connection ID.	27
CF_NO_CALL_TO_ANSWER	There is no alerting call to be answered.	28
CF_NO_CALL_TO_COMPLETE	There is no active call to be completed.	29
CF_GENERIC_SYSTEM_RESOURCE_AVAILABILITY	The request failed due to lack of system resources (no specific details available).	31
CF_SERVICE_BUSY	The service is temporarily unavailable.	32
CF_RESOURCE_BUSY	An internal resource is busy.	33
CF_RESOURCE_OUT_OF_SERVICE	The service requires a resource that is out of service.	34
CF_NETWORK_BUSY	The server sub-domain is busy.	35
CF_NETWORK_OUT_OF_SERVICE	The server sub-domain is out of service.	36
CF_OVERALL_MONITOR_LIMIT_EXCEEDED	The request would exceed the server's overall resource limits.	37
CF_CONFERENCE_MEMBER_LIMIT_EXCEEDED	The request would exceed the server's limit on the number of conference members.	38
CF_GENERIC_SUBSCRIBED_RESOURCE_AVAILABILITY	The request failed due to lack of purchased or contracted resources (no specific details available).	41

FailureCode	Description	Value
CF_OBJECT_MONITOR_LIMIT_EXCEEDED	The request would exceed the server's specific resource limits.	42
CF_EXTERNAL_TRUNK_LIMIT_EXCEEDED	The request would exceed the limit of external trunks.	43
CF_OUTSTANDING_REQUEST_LIMIT_EXCEEDED	The request would exceed the limit of outstanding requests.	44
CF_GENERIC_PERFORMANCE_MANAGEMENT	The request failed as a performance management mechanism (no specific details available).	51
CF_PERFORMANCE_LIMIT_EXCEEDED	The request failed because a performance management limit was exceeded.	52
CF_SEQUENCE_NUMBER_VIOLATED	The server has detected an error in the sequence number of the operation.	61
CF_TIME_STAMP_VIOLATED	The server has detected an error in the time stamp of the operation.	62
CF_PAC_VIOLATED	The server has detected an error in the PAC of the operation.	63
CF_SEAL_VIOLATED	The server has detected an error in the Seal of the operation.	64
CF_GENERIC_UNSPECIFIED_REJECTION	The request has been rejected (no specific details available).	70
CF_GENERIC_OPERATION_REJECTION	The requested operation has been rejected (no specific details available).	71
CF_DUPLICATE_INVOCATION_REJECTION	The request duplicated another request for the same service.	72
CF_UNRECOGNIZED_OPERATION_REJECTION	The request specified an unrecognized operation.	73
CF_MISTYPED_ARGUMENT_REJECTION	The request contained a parameter of the wrong type for the requested operation.	74
CF_RESOURCE_LIMITATION_REJECTION	The request would have exceeded a resource limitation.	75
CF_ACS_HANDLE_TERMINATION_REJECTION	The request specified an ACS handle that is no longer in use.	76

FailureCode	Description	Value
CF_SERVICE_TERMINATION_REJECTION	The request failed because the required service has been terminated.	77
CF_REQUEST_TIMEOUT_REJECTION	The request failed because a timeout limit was exceeded.	78
CF_REQUESTS_ON_DEVICE_EXCEEDED_REJECTION	The request would have exceeded the limits of the device.	79
Extended Control failure codes		
CF_INVALID_AGENT_ID_SPECIFIED	The request specified an invalid AgentID.	256
CF_INVALID_PASSWORD_SPECIFIED	The request specified an invalid agent password.	257
CF_INVALID_AGENT_ID_OR_PASSWORD_SPECIFIED	The request specified an invalid AgentID and/or invalid agent password.	258
CF_SPECIFIED_AGENT_ALREADY_SIGNED_ON	The request failed because the specified agent is already logged in.	259
CF_INVALID_LOGON_DEVICE_SPECIFIED	The request specified an invalid logon device.	260
CF_INVALID_ANSWERING_DEVICE_SPECIFIED	The request specified an invalid answering device.	261
CF_INVALID_SKILL_GROUP_SPECIFIED	The request specified an invalid agent skill group.	262
CF_INVALID_CLASS_OF_SERVICE_SPECIFIED	The request specified an invalid class of service.	263
CF_INVALID_TEAM_SPECIFIED	The request specified an invalid team	264
CF_INVALID_AGENT_WORKMODE	The request specified an invalid agent work mode.	265
CF_INVALID_AGENT_REASON_CODE	The request specified an invalid agent reason code.	266
CF_ADJUNCT_SWITCH_COMM_ERROR	A communication error occurred on the datalink between the Unified ICME system and the Unified CCX system.	267
CF_AGENT_NOT_PARTY_ON_CALL	The specified agent is not a party on the indicated call.	268

FailureCode	Description	Value
CF_INTERNAL_PROCESSING_ERROR	An internal error occurred in the Unified CCX system while processing the request.	269
CF_TAKE_CALL_CONTROL_REJECTION	The Unified CCX system refused a Unified ICME request to take control of a call.	270
CF_TAKE_DOMAIN_CONTROL_REJECTION	The Unified CCX system refused an Unified ICME request to take control of a domain.	271
CF_REQUESTED_SERVICE_NOT_REGISTERED	The Unified ICME system is not registered on the Unified CCX system for the requested service.	272
reserved		273-282
CF_SPECIFIED_EXTENSION_ALREADY_IN_USE	Specified extension is already in use. Use a different extension.	283
CF_ARBITRARY_CONF_OR_XFER_NOT_SUPPORTED	Arbitrary conference or transfer is currently not supported.	284
CF_NETWORK_TRANSFER_OR_CONSULT		285
CF_NETWORK_TRANSFER_OR_CONSULT_FAILED		286
CF_DEVICE_RESTRICTED	Device is restricted, not under CTI control.	287
CF_LINE_RESTRICTED	Line is restricted, not under CTI control.	288
CF_MAXIMUM_LINE_EXCEEDED	The number of configured extensions for the agent device exceeds the maximum allowed.	291
CF_SHARED_LINES_NOT_SUPPORTED	An extension on the agent device is shared with one or more other devices.	292
CF_EXTENSION_NOT_UNIQUE	An extension on the agent device is not unique and is configured on multiple partitions.	293
CF_UNKNOWN_INTERFACE_CTRLR_ID	The Interface Controller ID is unknown.	1001
CF_INVALID_INTERFACE_CTRLR_TYPE	The Interface Controller type is not valid.	1002
CF_SOFTWARE_REV_NO_SUPPORTED	The current software revision is not supported.	1003

FailureCode	Description	Value
CF_UNKNOWN_PID	One of the reserved fields in the fixed part of the message is incorrect.	1004
CF_INVALID_TABLE_SPECIFIED	An invalid table was specified.	1005
reserved		1006
CF_UNKNOWN_ROUTING_CLIENT_ID	The RoutingClientID is unknown.	1007
CF_RC_SERVICE_INACTIVATE	The routing client service is not active.	1008
CF_INVALID_DIALED_NUMBER	The dialed number is invalid.	1009
CF_INVALID_PARAMETER	A parameter supplied in the request is invalid.	1010
CF_UNKNOWN_ROUTING_PROBLEM	An unspecified error occurred during routing.	1011
reserved		1012
CF_UNSUPPORTED_RC_MESSAGE_REVISION	The requested routing client service protocol version is not supported.	1013
CF_UNSUPPORTED_IC_MESSAGE_REVISION	The requested interface controller service protocol version is not supported.	1014
reserved		1015

Unified CCX Error Code values

Table 14: Unified CCX Error Code values

Unified CCX Error Code	Description	Value
CCX_DEFAULT_ERROR_CODE	Unknown problem.	0
CCX_JTAPI_CCM_PROBLEM	JTAPI Cisco Unified Communications Manager problem.	88001
CCX_LOOKUP_FAILURE	Unified CCX lookup failure.	88002
CCX_AGENT_DN_NOT_ASSIGNED	The Unified CCX agent dialed number has not been assigned.	88003

Unified CCX Error Code	Description	Value
CCX_AGENT_DEVICE_OFF	The Unified CCX agent device is off.	88004
CCX_AGENT_DEVICE_BUSY	The Unified CCX agent device is busy.	88005
CCX_RMCM_CONTACT_NULL	There is no Unified CCX RmCm contact.	88006
CCX_RMCM_CONTACT_INVALID	The Unified CCX RmCm contact is invalid.	88007
CCX_AGENT_NULL	There is no Unified CCX agent.	88008
CCX_AGENT_INVALID	The Unified CCX agent is invalid.	88009
CCX_INVALID_ARGUMENT	There is an invalid Unified CCX command argument.	88010
CCX_NO_CALLBACK_FROM_AGENT	There is no callback from a Unified CCX agent	88011
CCX_CALL_ID_NULL	There is no Unified CCX call ID.	88012
CCX_CALL_OBJECT_NULL	There is no Unified CCX call object.	88013
CCX_JTAPI_PROVIDER_NULL	There is no Unified CCX JTAPI provider.	88014
CCX_DIALED_NUMBER_NULL	There is no Unified CCX dialed number.	88015
CCX_DEVICE_ID_NULL	There is no Unified CCX device ID.	88016
CCX_TERMINAL_CONNECTION_NULL	There is no Unified CCX terminal connection.	88017
CCX_CALL_CONTROL_MASK_NOT_ON	The Unified CCX call control mask is not on.	88018
CCX_AGENT_QUEUE_STATUS	The status of the Unified CCX agent queue.	88019
CCX_ICD_RTDM_NULL	The Unified CCX Real Time Data Manager does not exist.	88020
CCX_CSQ_ICD_STATUS	The status of the Unified CCX CSQ.	88021
CCX_OVERALL_ICD_STATUS	The overall Unified CCX system status.	88022
CCX_INVALID_SUPERVISORY_ACTION	The Unified CCX supervisory action is invalid.	88023
CCX_CALL_DATA_UPDATE_MASK_NOT_ON	The Unified CCX call data update mask is not on.	88024

Unified CCX Error Code values

Unified CCX Error Code	Description	Value
CCX_OVERALL_LIMIT_EXCEEDED	The Unified CCX overall limit is exceeded.	88025
CCX_CALL_ID_INVALID	The Unified CCX call ID is invalid.	88026
CCX_SUPERVISOR_UNAVAILABLE	The Unified CCX supervisor is unavailable.	88027
CCX_UNSUPPORTED_OPERATION	The Unified CCX operation is unsupported.	88028
CCX_CALL_ID_NOT_IN_PROVIDER	The specified Unified CCX call ID is currently not in the RmCm JTAPI provider.	88029
CCX_DEVICE_RESTRICTED	The Unified CCX device is restricted on the Cisco Unified Communications Manager.	88030
CCX_LINE_RESTRICTED	The Unified CCX line is restricted on the Cisco Unified Communications Manager.	88031
CCX_AGENT_LINE_ON_MULTIPLE_DEVICES	The Unified CCX agent line is on multiple devices.	88032
CCX_USER_OPERATION_FAILED	The Unified CCX user operation failed.	88033
CCX_PROVIDER_OPERATION_FAILED	The Unified CCX provider operation failed.	88034
CCX_PASSWORD_LOCKED	The Unified CCX password is locked.	88035
CCX_PASSWORD_EXPIRED	The Unified CCX password has expired.	88036
CCX_PASSWORD_EXPIRED_SUCCESS	The Unified CCX password has successfully expired.	88037
CCX_PASSWORD_HACKED_LOCKED	The Unified CCX password has been hacked and is locked.	88038
CCX_PASSWORD_INACTIVE_LOCKED	The Unified CCX password is inactive and is locked.	88039
CCX_PASSWORD_MUST_CHANGE	The Unified CCX password must be changed.	88040
CCX_AGENT_DEVICE_IPv6	Agent login is not supported for IPv6-enabled devices.	88041
CCX_TRANSFER_FAILED_DUE_TO_CCM_PROBLEM	External transfer is restricted due to logical partitioning policy.	88042
CCX_CONFERERENCE_FAILED_DUE_TO_CCM_PROBLEM	Conference is unavailable due to logical partitioning policy.	88043

Unified CCX Error Code	Description	Value
CCX_AGENT_LOGIN_NOTSUPPORTED_JALENABLEDPHONE	Agent login is not supported for JAL-enabled phones. This field is not applicable from Unified CCX 8.0(1) release onward.	88044
CCX_AGENT_LOGIN_NOTSUPPORTED_DTALENABLEDPHONE	Agent login is not supported for DTAL-enabled phones. This field is not applicable from Unified CCX 8.0(1) release onward.	88045
CCX_BIB_NOT_CONFIGURED	Built-In Bridge is not turned on in the agent phone.	88046
CCX_AGENT_DEVICE_NOT_SUPPORTED	Agent phone is earlier than Cisco IP Phone 7960 series, hence it does not support Silent Monitoring call.	88047
CCX_SILENT_MONITOR_OR_RECORDING_SETTINGS_NOT_CONFIGURED	Silent Monitoring or Recording capability of the Unified CCX RmCm Application User is removed in Cisco Unified Communications Manager.	88048
CCX_SILENT_MONITOR_OR_RECORDING_AGENT_CALL_STATE_NOT_TALKING	Agent phone ICD line to be monitored or recorded is not in the Talking state (on hold, ringing, and other states).	88049
CCX_AGENT_NOT_ASSOCIATED	Agent is not associated with the supervisor.	88050
CCX_RECORDING_ALREADY_INPROGRESS	Agent phone ICD line to be recorded is already participating in another recording session.	88051
CCX_RECORDING_CONFIG_NOT_MATCHING	Agent phone ICD line to be recorded does not have correct recording configuration in Cisco Unified Communications Manager.	88052
CCX_BIB_RESOURCE_NOT_AVAILABLE	Agent phone Built-In Bridge resource is not available.	88053
CCX_ILLEGAL_CALL_STATE	Call at the agent phone ICD line cannot perform the operation in its current state.	88054
CCX_CALLMANAGER_OPERATION_TIMEOUT	Cisco Unified Communications Manager operation timed out (failed).	88055
CCX_MONITORING_ALREADY_INPROGRESS	Agent phone line to be monitored is already participating in another monitoring session.	88056

Unified CCX Error Code	Description	Value
CCX_RECORDING_LICENSE_LIMIT_EXCEEDED	Number of concurrent recordings exceeds the value of recording count available in the Recording License.	88057

Special values

Table 15: [Special values](#), on page 26 shows the numeric code values used to define sizes and limits, indicate special IDs, and unspecified data elements in Unified CCX CTI messages.

Table 15: Special values

Constant	Description	Value
MAX_NUM_DEVICES	The maximum number of call devices that can be in a message list.	16
MAX_CSQ_COUNT	In AGENT_STATE_EVENT message	99
MAX_AGENTS	In AGENT_TEAM_CONFIG message	64
NULL_CALL_ID	Indicates that no call ID is supplied.	0xFFFFFFFF
NULL_APPLICATION	Indicates that no Service is supplied.	0xFFFFFFFF
NULL_CSQ	Indicates that no CSQ is supplied.	0xFFFFFFFF
NULL_LINEHANDLE	In message constants	0xFFFF

Unified CCX status values

Table 16: [Unified CCXstatus values](#), on page 26 lists the numeric codes with their descriptions for the status of the Unified CCX. The SYSTEM_EVENT message contains the Unified CCX Status field.

Table 16: Unified CCXstatus values

Unified CCX status	Description	Mask value
CCX_INITIALIZING	The server is initializing	0x00000100
CCX_SHUTTING_DOWN	The server is shutting down	0x00000200
CCX_SHUTDOWN	The server is shut down	0x00000300

Unified CCX status	Description	Mask value
CCX_IN_SERVICE	The server is in service	0x00000400
CCX_PARTIAL_SERVICE	The server is in Partial Service	0x00000500
CCX_OUT_OF_SERVICE	The server failed to initialize	0x00000600

Disposition values

Table 17: Call-Party disposition values , on page 27 lists all the numeric call-party disposition numeric code values with their meanings that can occur in Unified CCX CTI messages.

Table 17: Call-Party disposition values

Disposition Code	Meaning
1-14	reserved
15	Redirected
16-27	reserved
28	reserved
29	Announced Transfer
30	Conferenced
31-52	reserved

Error (E) status codes

Table 18: Error status codes , on page 27 lists the status codes with their numeric code values that may be included in the FAILURE_CONF and FAILURE_EVENT Unified CCX CTI messages.

Table 18: Error status codes

Status code	Description	Value
E_CTI_NO_ERROR	No error occurred.	0
E_CTI_INVALID_VERSION	The server does not support the protocol version number requested by the client.	1

Status code	Description	Value
E_CTI_INVALID_MESSAGE_TYPE	A message with an invalid message type field was received.	2
E_CTI_INVALID_FIELD	A message with an invalid floating field tag was received.	3
E_CTI_SESSION_NOT_OPEN	No session is currently open on the connection.	4
E_CTI_SESSION_ALREADY_OPEN	A session is already open on the connection.	5
E_CTI_REQUIRED_DATA_MISSING	The request did not include one or more floating items that are required.	6
E_CTI_INVALID_PERIPHERAL_ID	One of the reserved fields in the fixed part of the message is incorrect.	7
E_CTI_INVALID_AGENT_DATA	The provided agent data item(s) are not valid.	8
E_CTI_AGENT_NOT_LOGGED_ON	The indicated agent is not currently logged on.	9
E_CTI_DEVICE_IN_USE	The indicated agent IP phone is already associated with a different client.	10
E_CTI_NEW_SESSION_OPENED	This session is being terminated due to a new session open request from the client.	11
reserved		12
E_CTI_INVALID_CALLID	A request message was received with an invalid CallID value.	13
reserved		14-16
E_CTI_UNSPECIFIED_FAILURE	An unspecified error occurred.	17
E_CTI_INVALID_TIMEOUT	The IdleTimeout field contains a value that less than 20 seconds (4 times the minimum heartbeat interval of 5 seconds).	18
reserved		19-22
E_CTI_INVALID_FIELD_LENGTH	A floating field exceeds the allowable length for that field type.	23
reserved		24-91
E_CTI_SERVER_NOT_MASTER	The server is a standby server.	92
E_CTI_INVALID_CSQ	The specified CSQ is invalid.	93

Status code	Description	Value
E_CTI_JTAPI_CCM_PROBLEM	Indicates a JTAPI or Cisco Unified Communications Manager problem.	94
reserved		95
E_CTI_AUTO_CONFIG_RESET	The client needs to resend the CONFIG_REQUEST_KEY_EVENT and the CONFIG_REQUEST_EVENT message.	96

Reason codes for agent state change

Table 19: Reason codes for agent state change, on page 29 lists the reason codes for agent state change, description, and their numeric code values for change in agent's state that may be included in the AGENT_STATE_EVENT Unified CCX CTI messages.

Table 19: Reason codes for agent state change

Reason codes for agent state change	Description	Value
AGT_RELOGON	The Agent logs in again.	32767
AGT_CLOSE_CAD	The Agent closes the CAD	32766
AGT_CONN_DOWN	Connection between the Unified CCX and CAD is down.	32765
CCX_FAILURE	Unified CCX failure.	32764
AGT_RNA	The Agent did not answer the call.	32763
AGT_OFFHOOK	The Agent goes off-hook.	32762
AGT_NON_ICD	The Agent receives a direct non-business call.	32761
AGT_LOGON	The Agent logs in.	32760
AGT_PHONE_DOWN	The Agent's phone is down.	32759
AGT_WORK_TIMER_EXP	The Agent's work timer expired.	32758
CM_FAILOVER	Call Manager failover.	32757
AGT_PHONE_UP	The Agent's phone is up.	32756
AGT_CALL_ENDED	The Agent's Call ended.	32755

Reason codes for agent state change

Reason codes for agent state change	Description	Value
AGT_DEVICE_RESTRICTED	The Agent's device is restricted.	32754
AGT_LINE_RESTRICTED	The Agent's line is restricted.	32753
AGT_CANCEL_RESERVATION	The Agent cancels reservation for preview outbound call.	32752
AGT_SKIPS	The Agent skips the preview outbound call.	32751
AGT_ICD_EXTENSION_CHANGED	The Agent's ICD extension has changed.	32750