



APPENDIX **C**

Troubleshooting Cisco Unified JTAPI

This section contains CTI Error Codes, CiscoEvent IDs, and other information to assist with troubleshooting efforts.

CTI Error Codes

Table C-1 CTI Error Codes

Error Name	Description
CALL_DROPPED	The call is dropped after the feature request (hold, unhold, transfer, conference) but before completing the request.
CFWDALL_ALREADY_OFF	Attempt to turn off CFWall while it is already off
CFWDALL_ALREADY_SET	Attempt to set CFWall while it is already set
CFWDALL_DESTN_INVALID	Attempt to CFWall to an invalid destination
COMMAND_NOT_IMPLEMENTED_ON_DEVICE	Internal call processing error: device does not support the command.
CONFERENCE_ALREADY_PRESENT	Attempt to conference a party that is already in conference
CONFERENCE_FAILED	Conference complete was not successful.
CONFERENCE_FULL	All conference bridges are busy.
CONFERENCE_INACTIVE	Attempt to complete conference while consult conference is not active
CONFERENCE_INVALID_PARTICIPANT	Trying to conference to self or an invalid participant
CTIERR_ASSOCIATED_LINE_NOT_OPEN	Command issued on a line that must be open
CTIERR_CALL_ALREADY_EXISTS	Another call already exists on the line.
CTIERR_CALLHANDLE_NOTINCOMINGCALL	Attempt to answer a call that either does not exist or is not in the correct state
CTIERR_CALLHANDLE_UNKNOWN_TO_LINECONTROL	Attempt to redirect call that was unknown to line control

Table C-1 CTI Error Codes (continued)

Error Name	Description
CTIERR_CANNOT_OPEN_DEVICE	Device open failed because the associated device is shutting down (unregistering).
CTIERR_CANNOT_TERMINATE_MEDIA_ON_PHONE	An application cannot terminate media when the device has a physical phone (the phone always terminates the media).
CTIERR_CLUSTER_LINK_FAILURE	Link failed to one of the call managers in the cluster (network error).
CTIERR_COMMAND_NOT_IMPLEMENTED_ON_DEVICE	Device does not support the command.
CTIERR_DB_ERROR	Device query contained an illegal device type.
CTIERR_DB_ILLEGAL_DEVICE_TYPE	No longer used
CTIERR_DB_NO_MORE_DEVICES	No longer used
CTIERR_DEVICE_NOT_OPEN	Attempt to open either a line on a device that is not open or a device that must already be registered (that is, an IP phone device)
CTIERR_DIRECTORY_LOGIN_FAILED	Login to the directory server failed when the provider was opened.
CTIERR_DIRECTORY_LOGIN_TIMEOUT	Directory login failed due to timeout. This error occurs when there is no authentication response from CTI. The application must try again. If the ProviderOpenRequest fails on repeated attempts the developer must modify the ProviderOpenRequest.
CTIERR_FAC_CMC_REASON_CMC_INVALID	Client Matter Code (CMC) entered is invalid
CTIERR_FAC_CMC_REASON_CMC_NEEDED	Client Matter Code (CMC) is required to offer the call
CTIERR_FAC_CMC_REASON_FAC_CMC_NEEDED	Forced Authorization Code (FAC) and Client Matter Code (CMC) are required to offer call
CTIERR_FAC_CMC_REASON_FAC_INVALID	Forced Authorization Code (FAC) entered is invalid
CTIERR_FAC_CMC_REASON_FAC_NEEDED	Forced Authorization Code (FAC) is required to offer the call
CTIERR_FEATURE_SELECT_FAILED	Feature select failed
CTIERR_HOLDFAILED	Line control or call control rejected hold.
CTIERR_ILLEGAL_CALLINGPARTY	Attempt to originate call by using a calling party that is not on the device
CTIERR_ILLEGAL_CALLSTATE	Line is not in a legal state to invoke the command.
CTIERR_ILLEGAL_HANDLE	Handle is unknown to the system.
CTIERR_ILLEGAL_MESSAGE_FORMAT	QBE protocol error (bug)
CTIERR_INCORRECT_MEDIA_CAPABILITY	Device registration failed due to incorrect media capability.

Table C-1 CTI Error Codes (continued)

Error Name	Description
CTIERR_INVALID_DTMFDIGITS	Play DTMF request failed because it is an invalid DTMF digit.
CTIERR_INVALID_FILTER_SIZE	Filter size is invalid
CTIERR_LINE_OUT_OF_SERVICE	Line is out of service
CTIERR_LINECONTROL_FAILURE	Line control refuses to let a new call be initiated because of its state (probably bug).
CTIERR_MEDIA_ALREADY_TERMINATED	Attempt to terminate on a media device that already has media terminated
CTIERR_NOT_INITIALIZED	Attempt to open a provider before CTI initialization completes
CTIERR_OPERATION_FAILED_QUIETCLEAR	Feature unavailable for this call due to temporary failure
CTIERR_PRIMARY_CALL_DROPPED	Primary call was dropped
CTIERR_PROVIDER_ALREADY_OPEN	Attempt to reopen a provider
CTIERR_PROVIDER_NOT_OPEN	Attempt to issue a CTI command before the provider was open
CTIERR_REDIRECT_CALL_CALL_TABLE_FULL	Internal error returned from call control
CTIERR_REDIRECT_CALL_DESTINATION_BUSY	Redirect destination is busy.
CTIERR_REDIRECT_CALL_DESTINATION_OUT_OF_ORDER	Redirect destination is out of order.
CTIERR_REDIRECT_CALL_DIGIT_ANALYSIS_TIMEOUT	Internal error returned from call control
CTIERR_REDIRECT_CALL_DOES_NOT_EXIST	Attempt to redirect a call that does not exist or is not longer active
CTIERR_REDIRECT_CALL_INCOMPATIBLE_STATE	Internal error returned from call control
CTIERR_REDIRECT_CALL_MEDIA_CONNECTION_FAILED	Internal error returned from call control
CTIERR_REDIRECT_CALL_NORMAL_CLEARING	Internal error returned from call control
CTIERR_REDIRECT_CALL_ORIGINATOR_ABANDONED	Far end hung up on the call being redirected
CTIERR_REDIRECT_CALL_PARTY_TABLE_FULL	Internal error returned from call control
CTIERR_REDIRECT_CALL_PENDING_REDIRECT_TRANSACTION	Internal error returned from call control
CTIERR_REDIRECT_CALL_PROTOCOL_ERROR	Internal error returned from call control
CTIERR_REDIRECT_CALL_UNKNOWN_DESTINATION	Attempt to redirect to an unknown destination
CTIERR_REDIRECT_CALL_UNKNOWN_ERROR	Internal error returned from call control
CTIERR_REDIRECT_CALL_UNKNOWN_PARTY	Internal error returned from call control
CTIERR_REDIRECT_CALL_UNRECOGNIZED_MANAGER	Internal error returned from call control
CTIERR_REDIRECT_CALLINFO_ERR	Internal error returned from call control
CTIERR_REDIRECT_ERR	Internal error returned from call control
CTIERR_REGISTER_FEATURE_PROVIDER_NOT_REGISTERED	Register feature provider was not registered.

Table C-1 CTI Error Codes (continued)

Error Name	Description
CTIERR_REGISTER_FEATURE_APP_ALREADY_REGISTERED	Register feature application was already registered
CTIERR_RETRIEVEFAILED	Line control or call control rejected retrieve.
CTIERR_SSAPI_NOT_REGISTERED	Redirect command was issued when internal supporting interface was not initialized; either CTI has not yet finished its initialization or an internal error occurred.
CTIERR_TIMEOUT	No longer used
CTIERR_TRANSFERFAILED	Transfer failed (probable cause is one of the call legs was hung up or disconnected from the far end).
CTIERR_TRANSFERFAILED_CALLCONTROL_TIMEOUT	Expected response from call control not received during a transfer
CTIERR_TRANSFERFAILED_DESTINATION_BUSY	Attempt to transfer to a busy destination
CTIERR_TRANSFERFAILED_DESTINATION_UNALLOCATED	Attempt to transfer to a directory number that is not registered
CTIERR_TRANSFERFAILED_TRANSFER_ALREADY_OUTSTANDING	Existing transfer is still in progress.
CTIERR_UNDEFINED_LINE	Line was specified that was not found on the device.
CTIERR_UNKNOWN_GLOBAL_CALL_HANDLE	No longer used
CTIERR_UNRECOGNIZABLE_PDU	QBE protocol error (bug)
CTIERR_UNSUPPORTED_CFWD_TYPE	Unsupported call forward type
DARES_INVALID_REQ_TYPE	Internal call processing error: DaRes invalid request type
DATA_SIZE_LIMIT_EXCEEDED	XML data object size is bigger than allowed.
DEVICE_OUT_OF_SERVICE	Device is out of service.
DIGIT_GENERATION_ALREADY_IN_PROGRESS	Digit generation is already in progress.
DIGIT_GENERATION_CALLSTATE_CHANGED	Call state invalid to continue
DIGIT_GENERATION_WRONG_CALL_HANDLE	Call handle is invalid and call may be gone.
DIGIT_GENERATION_WRONG_CALL_STATE	Call state is not valid to generate digits.
DIRECTORY_TEMPORARY_UNAVAILABLE	Directory is temporarily unavailable.
INVALID_LINE_HANDLE	Attempt to perform a line operation on an invalid line handle
LINE_INFO_DOES_NOT_EXIST	Line information does not exist in database DbDNResponse.
LINE_NOT_PRIMARY	Internal error returned from call control
MAX_NUMBER_OF_CTI_CONNECTIONS_REACHED	The maximum number of CTI connections reached; may need to reconfigure the maximum number of CTI connections or log out of some applications to be able to log in

Table C-1 CTI Error Codes (continued)

Error Name	Description
MSGWAITING_DESTN_INVALID	Attempt to set message waiting lamp for an invalid DN; Message Waiting Destination not found
OPERATION_NOT_AVAILABLE_IN_CURRENT_STATE	Feature operation is not available in the current state.
PROTOCOL_TIMEOUT	Internal error returned from call control
PROVIDER_CLOSED	Attempt to close provider while it is already closed
RETRIEVEFAILED_ACTIVE_CALL_ON_LINE	Error occurred in retrieving held call; call may be already dropped.
TRANSFER_INACTIVE	Attempt to complete transfer while consult transfer is not there

CiscoEvent IDs

```
//Prov Ev
    CiscoProvFeatureUnRegisteredEv = 0x40000008;
//Term Ev
    CiscoTermCreatedEv = 0x40001001;
    CiscoTermDataEv = 0x40001002;
    CiscoTermInServiceEv = 0x40001003;
    CiscoTermOutOfServiceEv = 0x40001004;
    CiscoTermRemovedEv = 0x40001005;
    CiscoTermActiveStatusEv = 0x40001006;
    CiscoTermAlertingStatusEv = 0x40001007;
    CiscoTermHoldStatusEv = 0x40001008;
    CiscoTermIdleStatusEv = 0x40001009;
    CiscoTermButtonPressedEv = 0x40001010;
    CiscoTermRegistrationFailedEv = 0x40001011;
    CiscoTermDNDStatusChangedEv = 0x40001014;
    CiscoTermDeviceStateWhisperEv = 0x40001015;
//Addr Ev
    CiscoAddrCreatedEv = 0x40002001;
    CiscoAddrInServiceEv = 0x40002002;
    CiscoAddrOutOfServiceEv = 0x40002003;
    CiscoAddrRemovedEv = 0x40002004;
    CiscoOutOfServiceEv = 0x40002005;
    CiscoAddrAddedToTerminalEv = 0x40002006;
    CiscoAddrRemovedFromTerminalEv = 0x40002007;
    CiscoAddrAutoAcceptStatusChangedEv = 0x40002008;
    CiscoAddrIntercomInfoChangedEv = 0x40002009;
    CiscoAddrIntercomInfoRestorationFailEv = 0x400020010;
//Call Ev
    CiscoProvCallParkEv = 0x40003001;
    CiscoConferenceEndEv = 0x40003002;
    CiscoConferenceStartEv = 0x40003003;
    CiscoConsultCallActiveEv = 0x40003004;
    CiscoTransferEndEv = 0x40003005;
    CiscoTransferStartEv = 0x40003006;
    CiscoToneChanedEv = 0x40003007;
    CiscoCallChangedEv = 0x40003008;
//RTP/Misc Ev
```

```

CiscoRTPInputStartedEv = 0x40004001;
CiscoRTPInputStoppedEv = 0x40004002;
CiscoRTPOutputStartedEv = 0x40004003;
CiscoRTPOutputStoppedEv = 0x40004004;
CiscoMediaOpenLogicalChannelEv = 0x40004005;
// TermConnEvent
CiscoTermConnPrivacyChangedEv = 0x40005001;
CiscoTermConnSelectChangedEv = 0x40005003;

```

CiscoFeatureReason Codes

JTAPI provides the following CiscoFeatureReason codes in Call events that are caused by features. CiscoFeatureReason codes are provided for existing as well as new Cisco Unified Communications Manager features. For example, the TRANSFER and CONFERENCE feature reasons would be REASON_TRANSFER and REASON_CONFERENCE.

New reasons and codes might be provided if new features are introduced in the future, and these might not be backward compatible. Applications using CiscoFeatureReason should expect to receive new reasons and must implement default behavior to maintain the Application's backward compatibility.

REASON_TRANSFER = 2

Indicates events are due to the transfer feature

REASON_FORWARDNOANSWER = 3

Indicates events are due to call forward no answer feature

REASON_FORWARDBUSY = 4

Indicates events are due to call forward busy feature

REASON_FORWARDALL = 5

Indicates events are due to call forward all feature

REASON_REDIRECT = 6

Indicates events are due to call being redirected

REASON_BLINDTRANSFER = 7

Indicates events are due to single step transfer feature

REASON_CONFERENCE = 9

Indicates events are due to the conference feature

REASON_PARK = 10

Indicates events are due to call being parked

REASON_CALLPICKUP = 11

Indicates events are due to call pickup feature

REASON_NORMAL = 12

Indicates the events are due to normal call activity

REASON_PARKREMAINDER = 15

Indicates events are due to park remainder feature

REASON_UNPARK = 16

Indicates the events are due to call being unparked

REASON_BARGE = 20

Indicates the events are due to call being barged

REASON_IMMDIVERT = 21

Indicates events are due to idivert feature

REASON_FAC_CMC = 22

Indicates events are due to forced access code and client matter code feature

REASON_QSIG_PR = 23

Indicates events are due to QSIG path replacement feature

Additional Troubleshooting Information

Viewing JTAPI Debug Output

To view JTAPI debug output, use the JTPREFS application to change the trace settings. The JTPREFS application allows you to enable or disable various kinds of tracing.

JTPREFS is installed in the `%SystemRoot%\java\lib` directory along with the JTAPI classes. Cisco JTAPI Preferences is installed by default in `Program Files\JTAPITools`.

To open the Cisco JTAPI Preferences utility, choose **Start > Programs > Cisco JTAPI > JTAPI Preferences**.

The following trace levels are defined:

- WARNING - warning events
- INFORMATIONAL - status events
- DEBUG - debugging events

If DEBUG is enabled, JTPREFS allows you to enable or disable various debugging levels.

The following debugging levels are defined:

- TAPI_DEBUGGING - to trace JTAPI methods and events
- TAPI_IMPLDEBUGGING - internal JTAPI implementation trace
- CTI_DEBUGGING - to trace Cisco Unified Communications Manager events that are sent to the JTAPI implementation
- CTIIMPL_DEBUGGING - internal CTICLIENT implementation trace
- PROTOCOL_DEBUGGING - full CTI protocol decoding
- MISC_DEBUGGING - miscellaneous low-level debug trace

Traces can be directed to a specific path and folder rather than to the application directory by default. The same trace folder could be used for successive or more than one simultaneous launch of JTAPI. Different launches of JTAPI would also send the traces to different folders. This allows simultaneous JTAPI instances to maintain independent trace destinations

Log Files For JTAPI Client Installer

In order to detect the error which might occur during the installation and uninstallation process, two log files will be generated. These files will be in the same location from which the installer is executed.

- ismpInstall.log – to track events during installation.
- ismpUninstall.log – to track events during uninstallation.

The error messages will contain the information about the wizard beans that were executed as a part of the install procedure and if there were any exceptions.

Troubleshooting Tips for ISMP Installer

SN	Problem Description	Cause	Solution
1	ISMP Uninstall does not remove the target directories installed.	Directory from which uninstaller is invoked.	The uninstaller needs to be invoked from at least one level above the install directory.
2	Proper language details are not displayed during installation	Locale Files not proper.	Please report this problem immediately to the support personnel to suggest the change or error in message.
3	Uninstaller/Installer throws error.	The JVM has been either removed or replaced with an incompatible version	The installer comes with a built in JVM which also gets installed if the target machine does not have a JVM. In case you face this error - manual removal of the files needs to be done.
4	Installer goes through fine, but the files have not been copied.	Permissions	Ensure that proper write permissions are there for the destination folder. This problem can occur on UNIX platforms.
5	Installer/Uninstaller throws exception or crashes during the installation process.	version name problem / folder name problem.	Refer to the log files generated to get an idea of which step caused the error.
6	Upgrade does not show "upgrade" message during installation of an upgrade version.	.jtapiver.ini missing.	This file is where the current jtapi install details are located. If this is accidentally removed then, upgrade/reinstall will have display issues. In the case of an upgrade/reinstall or downgrade failure, the user will have to manually remove the files from the .jtapi/bin and .jtapi/lib folders and then try the installer in order to ensure proper installation during the next time.

“Unable to create provider -- directory login timeout” Message

This error occurs when there is no authentication response from CTI for the ProviderOpenRequest. It could fail because of:

- LDAP connectivity problems
- Database delays
- The CTIManager being busy for some other reason and therefore unable to honor the request

The solution is that the application must try again. If the ProviderOpenRequest fails on repeated attempts, modify the ProviderOpenRequest.

