

Avaya JTAPI Client Programmers Reference Guide - Addendum for CVCT release 9.1 version 1

October 19, 2000

Package com.lucent.jtapi.tsapi - What's In This Addendum (More Flexible DTMF Tone Generation & DEFINITY R8 features)

The following interface is being introduced with CVCT release 9.1 version 1 in order to support more flexible generation of DTMF tones:

- Feature: *Flexible Generation of DTMF Tones* - now using the [LucentV5TerminalConnectionEx](#) interface, an application may specify tone duration and inter-tone delay duration.

The following interfaces and classes are being introduced with CVCT release 3.3 version 2 in order to support the new DEFINITY Release 8 features. The features, and the API elements affected, are as follows:

- Feature: *Trunk Group and Member Information* - New Trunk Group and Trunk Member ID information is being provided for Transferred and Conferenced events in TSAPI, and the following interfaces expose this information in JTAPI.

The [LucentV6Connection](#) interface was introduced to help provide the Trunk Group and Trunk Member information to JTAPI applications; with this interface applications can directly access the CallCenterTrunk object corresponding to this Connection.

The [LucentTrunk](#) interface was introduced to provide Trunk Group and Trunk Member information for a CallCenterTrunk object. The ITsapiTrunk interface is an abstract base interface for LucentTrunk.

- Feature: *Expanded UUI* - UUI may now be specified, and will be made available, accommodating String values up to 96 characters long.

Existing interfaces and methods which use the UserToUser object may now be used with the longer String values.

- Feature: *Pending Work Modes* - A JTAPI application may request to change an Agent's state to Agent.WORK_NOT_READY and Agent.NOT_READY, and to have the state change be held "pending" until all current calls active on the Agent's AgentTerminal are completed.

The [LucentV6Agent](#) interface was introduced to add methods to request a pending state change.

The [LucentV6AgentStateInfo](#) object was introduced to return information about pending state changes.

The [LucentV5TerminalEx](#) interface was introduced to enable a JTAPI application to specify a reasonCode when removing an Agent from an AgentTerminal.

Interface Index

- [LucentV5TerminalConnectionEx](#)
- [ITsapiTrunk](#)
- [LucentTrunk](#)
- [LucentV5TerminalEx](#)
- [LucentV6Agent](#)
- [LucentV6Connection](#)

Class Index

- [LucentV6AgentStateInfo](#)

Interface

com.lucent.jtapi.tsapi.LucentV5TerminalConnectionEx

public abstract interface **LucentV5TerminalConnectionEx**

extends [LucentV5TerminalConnection](#)

this interface extends the [LucentV5TerminalConnection](#) interface with features specific to DEFINITY G3 PBX Driver Version 5 private data - specifically, with a method that provides the ability to exert more control over how DTMF (dual tone multi-function) tones are generated. When a Provider is bound to a DEFINITY switch which supports V5 private data, this interface may be used to access this additional capability.

Method Index

■ [generateDtmf](#)(String, int, int)

this method provides the ability to exert more control over how DTMF (dual tone multi-function) tones are generated - specifically, it enables an application to control the duration of the DTMF tones and the length of delay between tones.

Methods

■ [generateDtmf](#)

```
public abstract void generateDtmf(String digits,
                                 int toneDuration,
                                 int pauseDuration) throws TsapiMethodNotSupportedException,
TsapiResourceUnavailableException, TsapiInvalidStateException
```

this method provides the ability to exert more control over how DTMF (dual tone multi-function) tones are generated - specifically, it enables an application to control the duration of the DTMF tones and the length of delay between tones.

Parameters:

digits - a String with the digits to be translated into DTMF tones. The following constraints apply:

- the maximum number of DTMF tones that may be sent for a DEFINITY G3 is 32;
- the call must be in an established state;
- the allowed DTMF tones are digits 0-9 and # and *.

toneDuration - an int which specifies the duration of each DTMF tone, in hundredths of a second (for example, 10 means 1/10 of a second). Valid range of values accepted by the DEFINITY G3 for this parameter is from 6 to 35 (.06 to 0.35 seconds). The default duration is .35 seconds (350 milliseconds).

pauseDuration - an int which specifies the duration of the pause between each DTMF tone played, in one hundredths of a second. Valid range of values accepted by the DEFINITY G3 for this parameter is from 4 to 10 (0.04 to 0.10 seconds). The default duration is .10 seconds (100 milliseconds).

Throws: [TsapiMethodNotSupportedException](#)

provider is not a DEFINITY G3.

Throws: [TsapiResourceUnavailableException](#)

this service is requested on a DEFINITY G3 administered as a release earlier than G3V4.

Throws: [TsapiInvalidStateException](#)

either

- the service is requested on a call that is currently receiving switch-provided tone, such as dial tone, busy tone, ringback tone, intercept tone, Music-on-Hold/Delay, etc. The call must be in an established state in order to send DTMF tones, or,

- invalid callID is specified in sender or receivers.

Throws: [TsapiInvalidArgumentException](#)

either

- The tones parameter has length equal to 0 or greater than 32 or invalid characters are specified in tones, or
- a mandatory parameter is missing.

Throws: [TsapiPlatformException](#)

invalid deviceID is specified in sender.

Interface com.lucent.jtapi.tsapi.LucentV6Connection

public abstract interface **LucentV6Connection**

extends [LucentV5Connection](#)

This interface extends LucentV5Connection with features specific to DEFINITY G3 PBX Driver Version 6 private data. When a Provider is bound to a DEFINITY switch which supports V6 private data, this interface may be used to access additional capabilities.

The getTrunk method allows an application access to information about the trunk associated with this Connection.

Method Index

▪ [getTrunk\(\)](#)

If this Connection is associated with a trunk, this method returns the associated CallCenterTrunk.

Methods

● getTrunk

```
public abstract javax.telephony.callcenter.CallCenterTrunk getTrunk()
```

If this Connection is associated with a trunk, this method returns the associated CallCenterTrunk. Otherwise this returns null.

Interface com.lucent.jtapi.tsapi.LucentTrunk

public abstract interface **LucentTrunk**

extends [ITsapiTrunk](#)

This interface extends the ITsapiTrunk interface with features specific to DEFINITY G3 PBX Driver Version 6 private data. When a Provider is bound to a DEFINITY switch which supports V6 private data, this interface may be used to access additional capabilities.

This interface provides methods to access additional trunk information (member and group name) made available with DEFINITY R8 and the G3 PBX Driver private data version 6. It also provides access to the Connection associated with this trunk.

Method Index

▪ [getConnection\(\)](#)

this method returns the Connection associated with this trunk, or null if this information is not available.

▪ [getGroupName\(\)](#)

this method returns the name of the trunk group for this trunk, or null if no trunk name or trunk group name is known.

▪ [getMemberName\(\)](#)

this method returns the name of the trunk member for this trunk, or null if no trunk name or trunk member name is known.

Methods

● **getConnection**

```
public abstract javax.telephony.Connection getConnection()
```

this method returns the Connection associated with this trunk, or null if this information is not available.

● **getGroupName**

```
public abstract java.lang.String getGroupName()
```

this method returns the name of the trunk group for this trunk, or null if no trunk name or trunk group name is known.

● **getMemberName**

```
public abstract java.lang.String getMemberName()
```

this method returns the name of the trunk member for this trunk, or null if no trunk name or trunk member name is known.

Interface com.lucent.jtapi.tsapi.LucentV6Agent

public abstract interface **LucentV6Agent**

extends [LucentAgent](#)

This interface extends the LucentAgent interface with features specific to DEFINITY G3 PBX Driver Version 6 private data. When a Provider is bound to a DEFINITY switch which supports V6 private data, this interface may be used to access additional capabilities.

This interface provides access to Lucent *pending state, work mode and reason code* capabilities.

Method Index

■ [setState](#)(int, int, int, boolean)

This method overrides LucentAgent.setState to add the Lucent-specific parameters reasonCode and enablePending.

Methods

● [setState](#)

```
public abstract boolean setState(int state,
                                int workMode,
                                int reasonCode,
                                boolean enablePending) throws TsapiInvalidArgumentException,
TsapiInvalidStateException
```

This method overrides LucentAgent.setState to add the Lucent-specific parameters reasonCode and enablePending.

Parameters:

state - The Agent state - now this may be held pending for argument values Agent.WORK_NOT_READY and Agent.NOT_READY (see enablePending).

workMode - The LucentAgent workMode - for pending requests this should be specified as LucentAgent.MODE_NONE, since workMode may only be specified for Agent state Agent.READY.

reasonCode - An application-defined reasonCode (1-9), which may be specified when the state is set to Agent.NOT_READY. A zero (0) value is also allowed, meaning "no reason".

enablePending - A boolean flag which, when set to true, specifies that the state, workMode and reason code change may be held pending. The two alternative values have the following implications:

- When enablePending is specified as false, this implies that the application requires that the state, workMode and reasonCode be changed immediately - and that if they *cannot* be applied immediately, such as when the agent is on a call, then the request with this pendingSupport value should **fail** - the JTAPI implementation will throw an exception.
- When enablePending is specified as true, this implies that the application is prepared either for the state, workMode and reasonCode to be changed *immediately*, or, for the changes to be *held pending completion* of the current set of calls active on the agent phone.

Returns:

true if the requested change in state, workMode and reasonCode is pending; otherwise, the requested change took effect immediately.

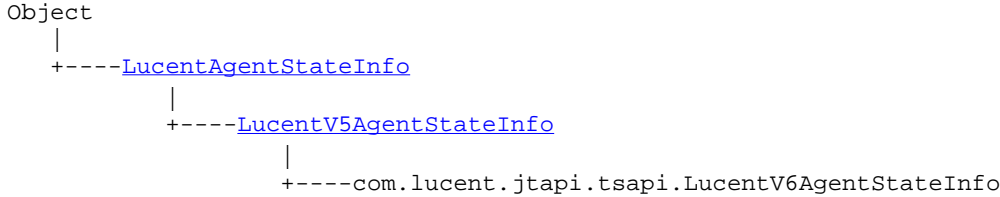
Throws: [TsapiInvalidArgumentException](#)

At least one of the arguments passed in is not valid.

Throws: [TsapiInvalidStateException](#)

Implementation determined Agent was in an invalid state for this method.

Class com.lucent.jtapi.tsapi.LucentV6AgentStateInfo



public final class **LucentV6AgentStateInfo**

extends [LucentV5AgentStateInfo](#)

This is the object that is returned by the query getStateInfo method of the LucentAgent interface, with the DEFINITY G3 Driver supporting and using Private data version 6.

An Agent implementing the LucentAgent interface has an Agent state, an LucentAgent workMode and a LucentV5Agent reasonCode. In prior releases, the getStateInfo method returned this object, which carried that status information (state, workMode, reasonCode) about an Agent; with private data version 6, this method will also return any *pending* status information for the Agent.

Status information (state, workMode and reasonCode) may be held pending, to be applied when all calls currently associated with the Agent are completed, as part of a new DEFINITY G3 feature supported by private data version 6.

See LucentV6Agent method setState for more details.

See Also:

[setState](#)

Variable Index

■ [pendingReasonCode](#)

application-defined reason code held pending, to be applied after the current call (or held call) has ended at the agent station.

■ [pendingState](#)

state held pending, to be applied after the current call (or held call) has ended at the agent station.

Variables

● **pendingReasonCode**

```
public int pendingReasonCode
```

application-defined reason code held pending, to be applied after the current call (or held call) has ended at the agent station. This will be non-zero only when pendingState == Agent.NOT_READY. See LucentV5AgentStateInfo.reasonCode for valid reasonCodes.

See Also:

[reasonCode](#)

● **pendingState**

```
public int pendingState
```

state held pending, to be applied after the current call (or held call) has ended at the agent station. Possible returned values are Agent.UNKNOWN (if no state is held pending), Agent.NOT_READY and Agent.WORK_NOT_READY.

Interface com.lucent.jtapi.tsapi.LucentV5TerminalEx

public abstract interface **LucentV5TerminalEx**

extends [LucentV5Terminal](#)

This interface extends [LucentV5Terminal](#) with additional features specific to DEFINITY G3 PBX Driver Version 5 private data. When a Provider is bound to a DEFINITY switch which supports V5 private data, this interface may be used to access additional capabilities. This interface provides a `removeAgent` method which takes an `int` `reasonCode`, so an application can specify a `reasonCode` when the application removes the agent and in effect logs the agent out.

Method Index

▪ [removeAgent](#)(Agent, int)

This method overrides `AgentTerminal.removeAgent()` to add an additional Lucent DEFINITY G3 PBX Driver Version 5 private data-specific parameter `reasonCode`.

Methods

● **removeAgent**

```
public abstract void removeAgent(Agent agent,  
                                int reasonCode) throws TsapiInvalidArgumentException
```

This method overrides `AgentTerminal.removeAgent()` to add an additional Lucent DEFINITY G3 PBX Driver Version 5 private data-specific parameter `reasonCode`. This is important because when an agent is logged out by removing the agent from the `AgentTerminal`, private data Version 5 provides the ability to specify a `reasonCode`. That capability is exposed with this method.

Parameters:

`agent` - An `Agent` object representing the association between this `AgentTerminal` and the `ACDAddress` that should be ended by logging out the agent.

`reasonCode` - an `int` conveying to an Application-defined reason code (1-9), or 0 for "no reason".

Throws: [TsapiInvalidArgumentException](#)

At least one of the arguments provided is not valid.

Interface com.lucent.jtapi.tsapi.ITsapiTrunk

public abstract interface **ITsapiTrunk**

extends [CallCenterTrunk](#)

ITsapiTrunk extends Jtapi CallCenterTrunk.

This interface was added so that LucentTrunk could extend it and migration of methods from LucentTrunk to ITsapiTrunk would not affect applications using LucentTrunk. Methods in LucentTrunk currently map to Tsapi Private Data for Definity. It is expected that once the functionality is part of Tsapi the methods will migrate.
