PassageWay®
Telephony Services
for Windows NT®
Release 2.31

Java™ Telephony API (JTAPI)
Client Programmer’s Guide
Issue 1.0  October 1997
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Acknowledgment
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What is JTAPI?

The Java™ Telephony API (JTAPI) specifies the standard telephony application programming interface for computer-telephone applications under Java. It is the definition for a reusable set of call control objects that bring cross-platform and cross-implementation portability to telephony applications. It is a simple, extensible, object-oriented model that addresses a broad range of computer-telephony tasks.

The Java Telephony API represents the combined efforts of design teams from Sun, Lucent Technologies, Nortel, Novell, Intel, and IBM, all operating under the direction of JavaSoft.
What is the PassageWay Telephony Services Java Client?

The JTAPI specification, as published under the direction of JavaSoft, is a set of Java interfaces. It requires an implementation of the defined interfaces in the form of Java classes in order to produce a working product. The Lucent Technologies PassageWay Telephony Services Java client is an implementation of the Java classes required to support the JTAPI interfaces.

The Telephony Services Java client communicates with a Telephony Services driver (i.e., a service provider) to execute the telephony requests to control the actual switching elements. The Telephony Services drivers use Lucent Technologies Telephony Services Application Programmer’s Interface (TSAPI) interfaces to present their services. Therefore, the Telephony Services Java client can only present the functions and services supplied by TSAPI and TSAPI’s associated private data.

Since the Telephony Services Java client uses TSAPI as its vehicle to communicate with the Telephony Services drivers, the Telephony Services Java client has extended JTAPI to give the application additional information (provided by TSAPI) to help understand exceptions in greater detail. In addition to the parameters specified in the JTAPI protocol, the Telephony Services Java client can also deliver private data to the application that is unique to each switching environment. This additional information is provided by the switch providers in the private data that accompanies TSAPI messages.

Included in the Telephony Services Java client is a set of Java interfaces that gives the application programmer access to the private data information used by the DEFINITY Enterprise Communications Server (ECS). This allows the application programmer to access additional switch features not available through standard JTAPI. Application programmers who want their applications to run on multiple TSAPI switches must “special-case” their code using these extensions.

For switches other than DEFINITY, the Telephony Services Java client implements the JTAPI private data package. This exposes TSAPI private data directly to the application. Additional interfaces have been defined to allow the application programmer to translate from TSAPI constructs to JTAPI objects and allow the interpretation of private TSAPI information to JTAPI objects.
Purpose and Scope

This document describes:

- the Lucent Technologies generic implementation of JTAPI on PassageWay Telephony Services. This implementation provides a programming environment that may be used with any switch for which there is a PassageWay Telephony Services driver.

- the Lucent Technologies PassageWay Telephony Services\(^1\) implementation of JTAPI that provides Telephony Services extensions to JTAPI exceptions for those application programmers who want to use TSAPI-specific error codes. This implementation provides a programming environment that may be used with any switch for which there is a PassageWay Telephony Services driver.

- the Telephony Services implementation of JTAPI that applies to clients using the DEFINITY switch and the associated PassageWay Telephony Services driver, the G3 PBX driver (G3PD). This implementation provides a programming environment that makes available DEFINITY-specific features.

- the Telephony Services implementation of JTAPI for private data. This implementation is targeted to independent switch vendors who want to use the private data programming mechanism to create private data packages, or application programmers who want to use or interpret private data that is provided in its raw form.

This document assumes a familiarity with the Java programming language and JTAPI and, for application programmers who want to use the TSAPI-specific information, TSAPI. For those readers interested in private data, it assumes a familiarity with TSAPI and its private data mechanism.

---

\(^1\) Hereafter, the phrase “Telephony Services implementation of JTAPI” indicates the Lucent Technologies PassageWay Telephony Services implementation of JTAPI.
Finding What You Need (Generic JTAPI and DEFINITY-Specific)

If you are an application programmer using the Telephony Services generic implementation of JTAPI to develop applications for all switches for which there is a PassageWay Telephony Services driver, or for the DEFINITY switch and the G3PD, find the appropriate description and refer to the associated chapters in the table below:

<table>
<thead>
<tr>
<th>Intended Audience</th>
<th>This implementation provides:</th>
<th>Refer to Chapter(s):</th>
</tr>
</thead>
</table>
| **Who:** an application programmer  
**What:** Telephony Services generic implementation of JTAPI  
**To do:** programming with JTAPI for any switch for which there is a PassageWay Telephony Services driver  
**Be familiar with:**  
- Java  
- JTAPI  
- TSAPI (optional) | 1) A programming environment for applications used with any switch for which there is a PassageWay Telephony Services driver;  
2) A programming environment that makes available TSAPI-specific information (optional) |  
- [Chapter 1, “Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch”]  
- [Chapter 2, “Using Telephony Services Extensions to JTAPI Exceptions” (optional)] |
| Who: an application programmer  
What: Telephony Services implementation of JTAPI  
To do: programming with JTAPI for applications used with the DEFINITY switch and the G3PD  
Be familiar with:  
- Java  
- JTAPI  
- TSAPI (optional) | 1) A programming environment for applications used with the DEFINITY switch and the G3PD;  
2) A programming environment that makes available DEFINITY-specific features;  
3) A programming environment that makes available TSAPI-specific information (optional) |  
- [Chapter 1, “Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch”]  
- [Chapter 3, “Using Telephony Services DEFINITY-Specific Extensions to JTAPI”]  
- [Chapter 2, “Using Telephony Services Extensions to JTAPI Exceptions” (optional)] |
Finding What You Need (Non-DEFINITY Private Data)

If you are an independent switch vendor who is using the JTAPI private data programming environment to develop a private data package for non-DEFINITY switches, or an application programmer who is using or interpreting private data in a raw form, find the appropriate description and refer to the associated chapters in the table below:

<table>
<thead>
<tr>
<th>Intended Audience</th>
<th>This implementation provides:</th>
<th>Refer to Chapter(s):</th>
</tr>
</thead>
</table>
| **Who:** An independent switch vendor  
**What:** Telephony Services implementation of JTAPI for applications using private data  
**To do:** Programming with JTAPI and TSAPI to produce private data packages for applications used with non-DEFINITY switches and their associated drivers  
**Be familiar with:**  
- Java  
- JTAPI  
- TSAPI  
- TSAPI’s private data mechanism | A programming environment to produce private data packages that may be used with any non-DEFINITY switch and its associated PassageWay Telephony Services driver |  
- Chapter 4, “Using Telephony Services Private Data Extensions to JTAPI”  
- Appendix A, “Telephony Services Implementation of JTAPI for Private Data” |
| **Who:** An application programmer  
**What:** Telephony Services implementation of JTAPI for applications using private data  
**To do:** Programming with JTAPI and TSAPI to use or interpret private data for applications used with non-DEFINITY switches and their associated drivers  
**Be familiar with:**  
- Java  
- JTAPI  
- TSAPI  
- TSAPI’s private data mechanism | A programming environment to use or interpret private data, in a raw form, without an intermediate private data package, for applications used with any non-DEFINITY switch and its associated PassageWay Telephony Services driver |  
- Chapter 4, “Using Telephony Services Private Data Extensions to JTAPI”  
- Appendix A, “Telephony Services Implementation of JTAPI for Private Data” |
Navigating through the Document

This document is presented in PDF format with hypertext links and thumbnails for easy viewing and printing. Hypertext links are inserted so that you can easily navigate through the document by moving the hand symbol and clicking on the desired subject. You can also navigate through the document using the thumbnails of Adobe Acrobat Reader. After opening the PDF file with Adobe Reader, you can click on the second icon to see the list of items presented in outline format. If you click on one of the items in the list, you will be brought to the associated subject.

Related Documents

There is one other document related to JTAPI that is provided with the SDK.

Java Telephony API Programmer’s Reference (JTAPI 1.2 Early Access)

This document consists of Sun Microsystem’s Java Telephony API (JTAPI) specification files that are available to you from the Sun Microsystem Java Telephony API web site. This document is an early access version of the JTAPI1.2 specification. To obtain the very latest HTML files, go directly to the web site, http://java.sun.com/products/jtapi.

The following documents provide reference material about DEFINITY and Telephony Services Application Programming Interface (TSAPI) respectively.

PassageWay Telephony Services Solution DEFINITY ECS Programmer’s Guide

This document presents information about DEFINITY switch administration and switch interactions.

Telephony Services Application Programming Interface (TSAPI) Version 2

This document presents information about how Telephony Services and TSAPI support telephony control capabilities in a generic, switch-independent way (i.e., support PBXs from various vendors). The architecture allows the incorporation of vendor-specific switch drivers to deliver Telephony Services across various switch environments.
Telephony Services Implementation of JTAPI

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Telephony Services Implementation of JTAPI

Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch

This chapter presents the level of support provided by the Telephony Services implementation of JTAPI for JTAPI interfaces and associated methods:

- for all switches for which there is a Telephony Services driver

  The information contained in the column entitled “Supported for All Switches” in the following tables represents the features supported by the Telephony Services generic implementation of JTAPI for any switch for which there is a PassageWay Telephony Services driver.

- for the DEFINITY switch and the G3PD driver

  The information contained in the column entitled “Supported for the DEFINITY Switch” in the following tables represents the features supported by the Telephony Services implementation of JTAPI for the DEFINITY switch and the G3PD driver.

This information is organized by JTAPI package, for example, [Table 1-1] lists each interface and its associated method from the JTAPI Core package; [Table 1-2] lists each interface and its associated method from the JTAPI CallCenter Capabilities package, and so forth.

Numerous tables are followed by implementation notes. If a number follows an interface (e.g., JtapiPeer\(^1\)) or a method (e.g., getServices\(^2\)), see the appropriate “Implementation Notes” section that follows the table to obtain additional information about the interfaces and/or their respective methods.
NOTE:
If you are an independent switch vendor who is using the JTAPI private data programming environment to develop a private data package for non-DEFINITY switches, or an application programmer who is using or interpreting private data in a raw form, ignore this chapter and refer to Chapter 4, "Telephony Services Private Data Extensions to JTAPI."

Support for JTAPI Core Package

The following table lists each JTAPI interface from the JTAPI Core Package, (e.g., Address), followed by its associated method(s), (e.g., getName, getProvider, getTerminals, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-1. Support for JTAPI Core Package

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<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for Allwitches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getName</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getProvider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getTerminals</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getConnections</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>addObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getObservers</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>removeObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>addCallObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getCallObservers</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>removeCallObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getAddressCapabilities</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>AddressObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>addressChangedEvent</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Call</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getConnections</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getProvider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getState</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>connect</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>addObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getObservers</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>removeObserver</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getCallCapabilities</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CallObserver</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>callChangedEvent</td>
<td>✓</td>
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</tr>
<tr>
<td>Connection</td>
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<td>✓</td>
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<td>JTAPI Interfaces and Methods</td>
<td>Supported for All Switches</td>
<td>Supported for the DEFINITY Switch</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>getState</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getCall</td>
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<td>√</td>
</tr>
<tr>
<td>getAddress</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getTerminalConnections</td>
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<td>√</td>
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<tr>
<td>disconnect</td>
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<td>√</td>
</tr>
<tr>
<td>getConnectionCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>JtapiPeer</td>
<td>√</td>
<td>√</td>
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<tr>
<td>getName</td>
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<td>√</td>
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<td>getServices</td>
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<td>getProvider</td>
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<td>Provider</td>
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<tr>
<td>getState</td>
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<td>√</td>
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<td>getName</td>
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<td>√</td>
</tr>
<tr>
<td>getCalls</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getAddress</td>
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</tr>
<tr>
<td>getTerminals</td>
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<tr>
<td>shutdown</td>
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<td>√</td>
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<td>createCall</td>
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<td>√</td>
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<tr>
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<tr>
<td>getObservers</td>
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</tr>
<tr>
<td>removeObserver</td>
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<td>√</td>
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<tr>
<td>getProviderCapabilities</td>
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<tr>
<td>Terminal</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getName</td>
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<td>√</td>
</tr>
<tr>
<td>getProvider</td>
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<td>√</td>
</tr>
<tr>
<td>getAddresses</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getTerminalConnections</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>addObserver</td>
<td>√</td>
<td>√</td>
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<td>getObservers</td>
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<td>√</td>
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<tr>
<td>removeObserver</td>
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<td>√</td>
</tr>
<tr>
<td>addCallObserver</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getCallObservers</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>removeCallObserver</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>getTerminalCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>JTAPI Interfaces and Methods</td>
<td>Supported for All Switches</td>
<td>Supported for the DEFINITY Switch</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>TerminalConnection</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getState</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getTerminal</td>
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<td>✓</td>
</tr>
<tr>
<td>getConnection</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>answer</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getTerminalConnectionCapabilities</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>TerminalObserver</td>
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<td>✓</td>
</tr>
<tr>
<td>terminalChangedEvent</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Implementation Notes**

1. Obtain a JtapiPeer object using the JtapiPeerFactory class. The TsapiPeer class represents this implementation of the JtapiPeer. To obtain TsapiPeer, do:

   ```java
   JtapiPeerFactory.getJtapiPeer(com.lucent.jtapi.tsapi.TsapiPeer)
   ```

2. The `JtapiPeer/getServices` method returns an array of service names that can be used to build the String needed to be passed to `JtapiPeer/getProvider()`. These Strings are the Telephony Services server Tlink names.

3. The String provided by `JtapiPeer/getProvider` must contain a Telephony Services server Tlink name as well as a Windows NT login and password. The format of the String must be:

   `<tlink>;login=<loginID>;passwd=<pw>`
Support for JTAPI Call Center Package

The following table lists each JTAPI interface from the JTAPI Call Center Package, (e.g., ACDAddress), followed by its associated method(s), (e.g., getLoggedOnAgents, getNumberQueued, getOldestCallQueued, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-2. Support for JTAPI CallCenter Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACDAddress</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getLoggedOnAgents</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>getNumberQueued</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
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<td>getACDCollections</td>
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<td>setApplicationData</td>
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### JTAPI Interfaces and Methods

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<th>Supported for the DEFINITY Switch</th>
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<td><code>CallCenterProvider</code></td>
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<td><code>getRouteableAddresses</code></td>
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<tr>
<td><code>getACDAddresses</code></td>
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</tr>
<tr>
<td><code>getACDManagerAddresses</code></td>
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<td></td>
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<td><code>getCall</code></td>
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<tr>
<td><code>registerRouteCallback</code></td>
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<td><code>reRouteEvent</code></td>
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<td><code>routeUsedEvent</code></td>
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<td>√</td>
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<tr>
<td><code>routeEndEvent</code></td>
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</tr>
<tr>
<td><code>routeCallbackEndedEvent</code></td>
<td>√</td>
<td>√</td>
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<td><code>RouteSession</code></td>
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<td><code>getRouteAddress</code></td>
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<td><code>endRoute</code></td>
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<td><code>getState</code></td>
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<tr>
<td><code>getCause</code></td>
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</tbody>
</table>

### Implementation Notes

1. The `ACDAddress/getLoggedOnAgents` method is fully supported for the DEFINITY switch. For other switches, it returns the sum of (a) those agents that were logged in through the application and (b) those agents that were logged in after an ACDAddressObserver was added to the application.

2. The `ACDAddress/getNumberQueued` method is fully supported for the DEFINITY switch. For other switches, it returns the number of calls queued reported in the last queued event. This may not be accurate since some of the calls may have been subsequently dequeued.
Implementation Notes (Continued)

3 The AgentObject/getAgentID method returns a null String for the DEFINITY switch.

4 The CallCenterCall/connectPredictive method is supported for the DEFINITY switch and for other switches; however, the answeringEndpointType parameter is not supported. For the DEFINITY switch, the maxRings and answeringTreatment parameters are supported. For other switches, the maxRings and answeringTreatment parameters are not supported.

For the DEFINITY switch, if the Call is observed and the ACDAddress or AgentTerminal is also call observed, then two unique Call objects will be created that are associated with the same real call.

Other methods must be used to determine that there are two Call objects representing the same real call:

- One way to do this, if the called address is unique among all calls, is to use the Call.getCalledAddress() method.

- Another way is to use the UserToUserInfo DEFINITY-specific extension. The application can send a unique ID in the UserToUserInfo with the connectPredictive and this ID will be reported in call events for the ACDAddress or AgentTerminal. The UserToUserInfo can also be retrieved directly from the Calls.

In any case, both Call objects and all Connections and TerminalConnections in both Calls are valid. Valid requests may be made of any of the objects.

5 The RouteAddress/registerRouteCallback method is supported for the DEFINITY switch and other switches; however, only one RouteCallback may be registered for an Address at a time.

6 The RouteSession/selectRoute method is supported for the DEFINITY switch and other switches; however, only the first route specified in the routeSelected parameter is used. The subsequent routes are ignored.
Support for JTAPI Call Center Capabilities Package

The following table lists each JTAPI interface from the JTAPI Call Center Capabilities Package, (e.g., **ACDAddressCapabilities**), followed by its associated method(s), (e.g., canGetLoggedOnAgents, canGetNumberQueued, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
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</thead>
<tbody>
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<td>ACDAddressCapabilities</td>
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</tr>
<tr>
<td>canGetLoggedOnAgents</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetNumberQueued</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetOldestCallQueued</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetRelativeQueueLoad</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetQueueWaitTime</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetACDManagerAddress</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>ACDConnectionCapabilities</td>
<td>√</td>
<td>√</td>
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<tr>
<td>canGetACDManagerConnection</td>
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<td>√</td>
</tr>
<tr>
<td>ACDManagerAddressCapabilities</td>
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<td>√</td>
</tr>
<tr>
<td>canGetACDAddresses</td>
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<td>√</td>
</tr>
<tr>
<td>ACDManagerConnectionCapabilities</td>
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<td>√</td>
</tr>
<tr>
<td>canGetACDCredentials</td>
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<tr>
<td>AgentTerminalCapabilities</td>
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<td>canHandleAgents</td>
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<td>CallCenterAddressCapabilities</td>
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<td>canAddCallObserver</td>
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<td>CallCenterCallCapabilities</td>
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<td>canConnectPredictive</td>
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<td>canHandleApplicationData</td>
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<td>canGetTrunks</td>
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Support for JTAPI Call Center Events Package

The following table lists each JTAPI interface from the JTAPI Call Center Events Package, (e.g., ACDAddrBusyEv, ACDAddrLoggedOffEv, ACDAddrLoggedOnEv, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

NOTE: If a JTAPI Call Center Event is supported, all associated methods are also supported.

Table 1-4. Support for JTAPI CallCenter Events Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces</th>
<th>Supported for All Switches</th>
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<td>ACDAddrLoggedOnEv</td>
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<tr>
<td>ACDAddrNotReadyEv</td>
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</tr>
<tr>
<td>ACDAddrReadyEv</td>
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<tr>
<td>ACDAddrWorkNotReadyEv</td>
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<td>ACDAddrWorkReadyEv</td>
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<tr>
<td>CallCentCallAppDataEv</td>
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<td>RouteCallbackEndedEvent</td>
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<tr>
<td>RouteUsedEvent</td>
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</tbody>
</table>
Implementation Notes

1. These events are not supported for the DEFINITY switch. They will be generated by the implementation and sent to the application when an explicit state change is requested by the application.
Support for JTAPI Call Control Package

The following table lists each JTAPI interface from the JTAPI Call Control Package, (e.g., `CallControlAddress`), followed by its associated method(s), (e.g., `setForwarding`, `getForwarding`, `cancelForwarding`, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-5. Support for JTAPI CallControl Package

<table>
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<th>Supported for the DEFINITY Switch</th>
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<tr>
<td>getForwarding</td>
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<td>getDoNotDisturb</td>
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<tr>
<td>setDoNotDisturb</td>
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<tr>
<td>getMessageWaiting</td>
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<td>setMessageWaiting</td>
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<td>CallControlAddressObserver</td>
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<td>CallControlCall</td>
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<td>getCallingTerminal</td>
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<tr>
<td>transfer(String address)</td>
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<tr>
<td>setConferenceController</td>
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<tr>
<td>getConferenceController</td>
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<td>CallControlCallObserver</td>
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<td>Supported for the DEFINITY Switch</td>
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<tr>
<td>getDoNotDisturb</td>
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<tr>
<td>setDoNotDisturb</td>
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<td>√</td>
</tr>
<tr>
<td>pickup (Connection pickConnection, Address terminalAddress)</td>
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<td>√</td>
</tr>
<tr>
<td>pickup (TerminalConnection pickTermConn, Address terminalAddress)</td>
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<td>√</td>
</tr>
<tr>
<td>pickup (Address pickAddress, Address terminalAddress)</td>
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<tr>
<td>pickupFromGroup(String pickupGroup, Address terminalAddress)</td>
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<tr>
<td>pickupFromGroup(Address terminalAddress)</td>
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</tr>
<tr>
<td><strong>CallControlTerminalConnection</strong></td>
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<tr>
<td>getCallControlState</td>
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<td>unhold</td>
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<td>join</td>
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<tr>
<td><strong>CallControlTerminalObserver</strong></td>
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</tr>
</tbody>
</table>

**Implementation Notes**

1. The **CallControlAddress**/setForwarding method is fully supported for the DEFINITY switch and for other switches; however, the SPECIFIC_ADDRESS filter instruction is not supported. The ALL_CALLS filter instruction is only supported when the filter type is FORWARD_UNCONDITIONALLY. The DEFINITY switch only supports the ALL_CALLS filter instruction with the FORWARD_UNCONDITIONALLY filter type.
Implementation Notes (Continued)

2 The following methods are paired synonyms:

- `CallControlAddress/getDoNotDisturb`
- `CallControlTerminal/getDoNotDisturb`
- `CallControlAddress/setDoNotDisturb`
- `CallControlTerminal/setDoNotDisturb`

For these methods, there is no distinction between an Address and a Terminal. `CallControlAddress.getDoNotDisturb()` and `CallControlTerminal.getDoNotDisturb()` always return equivalent values.
Support for JTAPI Call Control Capabilities Package

The following table lists each JTAPI interface from the JTAPI Call Control Capabilities Package, (e.g., `CallControlAddressCapabilities`), followed by its associated method(s), (e.g., canSetForwarding, canGetForwarding, canCancelForwarding, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>CallControlAddressCapabilities</code></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetForwarding</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetForwarding</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canCancelForwarding</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetDoNotDisturb</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetDoNotDisturb</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetMessageWaiting</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetMessageWaiting</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td><code>CallControlCallCapabilities</code></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canDrop</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canOff-hook</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetConferenceController</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetTransferController</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetTransferEnable</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetConferenceEnable</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canTransfer</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canConference</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canAddParty</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canConsult</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td><code>CallControlConnectionCapabilities</code></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canRedirect</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canAddToAddress</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canAccept</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canReject</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canPark</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td><code>CallControlTerminalCapabilities</code></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetDoNotDisturb</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetDoNotDisturb</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canPickup</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canPickupFromGroup</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td><code>CallControlTerminalConnectionCapabilities</code></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>JTAPI Interfaces and Methods</td>
<td>Supported for All Switches</td>
<td>Supported for the DEFINITY Switch</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>canHold</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>canUnhold</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>canJoin</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>canLeave</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Support for JTAPI Call Control Events Package

The following table lists each JTAPI interface from the JTAPI Call Control Events Package, (e.g., CallCtlAddrDoNotDisturbEv, CallCtlAddrForwardEv, CallCtlAddrMessageWaitingEv, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

NOTE: If a JTAPI Call Control Event is supported, all associated methods are also supported.

<table>
<thead>
<tr>
<th>JTAPI Interfaces</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>CallCtlAddrDoNotDisturbEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlAddrForwardEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlAddrMessageWaitingEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnAlertingEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnDialingEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnDisconnectedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnEstablishedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnFailedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnInitiatedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnNetworkAlertingEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnNetworkReachedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnOfferedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnQueuedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlConnUnknownEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnBridgedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnDroppedEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnHeldEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnInUseEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnRingingEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnTalkingEv</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>CallCtlTermConnUnknownEv</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

Implementation Notes

1. The CallCtlAddrDoNotDisturbEv event is sent even if DoNotDisturb was changed using CallControlTerminal.setDoNotDisturb(). For DoNotDisturb, there is no distinction between an Address and a Terminal.
Support for JTAPI Capabilities Package

The following table lists each JTAPI interface from the JTAPI Capabilities Package, (e.g., AddressCapabilities), followed by its associated method(s), (e.g., isObservable), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-8. Support for JTAPI Capabilities Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>AddressCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>isObservable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CallCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canConnect</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>isObservable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ConnectionCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canDisconnect</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>ProviderCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>isObservable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TerminalCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>isObservable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TerminalConnectionCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>isObservable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Support for JTAPI Events Package

The following table lists each JTAPI interface from the JTAPI Events Package, (e.g., `AddrObservationEndedEv`, `CallActiveEv`, `CallInvalid`, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

**NOTE:**
If a JTAPI Event is supported, all associated methods are also supported.

<table>
<thead>
<tr>
<th>JTAPI Interfaces</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>AddrObservationEndedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>CallActiveEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>CallInvalidEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>CallObservationEndedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnAlertingEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnConnectedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnCreatedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnDisconnectedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnFailedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnInProgressEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ConnUnknownEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ProvInServiceEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ProvObservationEndedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ProvOutOfServiceEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>ProvShutdownEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermConnActiveEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermConnCreatedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermConnDroppedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermConnPassiveEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermConnRingingEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermConnUnknownEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>TermObservationEndedEv</code></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Support for JTAPI Media Package

The following table lists each JTAPI interface from the JTAPI Media Package, (e.g., `MediaCallObserver`), followed by its associated method(s), (if any), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-10. Support for JTAPI Media Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>MediaCallObserver</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>MediaTerminalConnection</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>getMediaAvailability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>getMediaState</td>
<td></td>
<td></td>
</tr>
<tr>
<td>useDefaultSpeaker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>useRecordURL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>useDefaultMicrophone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>usePlayURL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>startPlaying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>stopPlaying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>startRecording</td>
<td></td>
<td></td>
</tr>
<tr>
<td>setDtmfDetection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>generateDtmf</td>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>
Support for JTAPI Media Capabilities Package

The following table lists each JTAPI interface from the JTAPI Media Capabilities Package, (e.g., `MediaTerminalConnectionCapabilities`), followed by its associated method(s), (e.g., `canUseDefaultSpeaker`, `canUseDefaultMicrophone`, `canUseRecordURL`, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-11. Support for JTAPI Media Capabilities Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>MediaTerminalConnectionCapabilities</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canUseDefaultSpeaker</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canUseDefaultMicrophone</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canUseRecordURL</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canUsePlayURL</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canStartPlaying</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canStopPlaying</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canStartRecording</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canStopRecording</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canDetectDtmf</code></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><code>canGenerateDtmf</code></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Support for JTAPI Media Events Package

The following table lists each JTAPI interface from the JTAPI Media Events Package, (e.g., MediaTermConnAvailable, MediaTermConnDtmfEv, MediaTermConnEv, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

- **NOTE:**
  If a JTAPI Media Event is supported, all associated methods are also supported.

<table>
<thead>
<tr>
<th>JTAPI Interfaces</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>MediaTermConnAvailableEv</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MediaTermConnDtmfEv</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>MediaTermConnStateEv</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>MediaTermConnUnavailableEv</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Implementation Notes

1. Although the MediaTermConnDtmfEv interface has been defined as a TerminalConnection event, the TerminalConnection field will be null. The Call field will be filled in with the call to which the DTMF digits have been applied.

   This event is sent only when a DTMF detector is attached to the call and DTMF tones are detected. The tone detector is disconnected when the far end answers or "#" is detected. This event is used in conjunction with the DEFINITY-specific extension LucentRouteSession/selectRouteAndCollect.
Support for JTAPI Phone Package

NOTE:
The JTAPI Phone Package interfaces and methods are not supported.
Support for JTAPI Phone Capabilities Package

NOTE:
The JTAPI Phone Package interfaces and methods are not supported.
Support for JTAPI Phone Events Package

NOTE:
The JTAPI Phone Events Package interfaces and methods are not supported.
Support for JTAPI Private Data Package

The following table lists each JTAPI interface from the JTAPI Private Data Package, (e.g., `PrivateData`), followed by its associated method(s), (e.g., `getPrivateData`, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-13. Support for JTAPI Private Data Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>PrivateData</code></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td><code>getPrivateData</code></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td><code>setPrivateData</code></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td><code>sendPrivateData</code></td>
<td>√</td>
<td></td>
</tr>
</tbody>
</table>

Implementation Notes

1. For the `PrivateData/setPrivateData` and `PrivateData/sendPrivateData` methods, the private data Object parameter must be an instance of `TsapiPrivate`. 
Support for JTAPI Private Data Capabilities Package

The following table lists each JTAPI interface from the JTAPI Private Data Capabilities Package, (e.g., PrivateDataCapabilities), followed by its associated method(s), (e.g., canSetPrivateData, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

Table 1-14. Support for JTAPI Private Data Capabilities Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces and Methods</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>PrivateDataCapabilities</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSetPrivateData</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canGetPrivateData</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>canSendPrivateData</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
Support for JTAPI Private Data Events Package

The following table lists each JTAPI interface from the JTAPI Private Data Events Package, (e.g., PrivateAddrEv, PrivateCallEv, and so forth), and whether the implementation is supported for all switches and/or for the DEFINITY switch.

cae NOTE:
If a JTAPI Private Data Event is supported, all associated methods are also supported.

Table 1-15. Support for JTAPI Private Data Events Package

<table>
<thead>
<tr>
<th>JTAPI Interfaces</th>
<th>Supported for All Switches</th>
<th>Supported for the DEFINITY Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>PrivateAddrEv</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>PrivateCallEv</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>PrivateProvEv</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>PrivateTermEv</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Using Telephony Services
Extensions to JTAPI Exceptions

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  ■ What are the Extensions? 2-2
Using Telephony Services Extensions to JTAPI Exceptions

NOTE:
This chapter describes non-standard additions to JTAPI. This package is available only from the PassageWay Telephony Services implementation of JTAPI and is not available from any other implementation of JTAPI.

This chapter is optional. It contains the Telephony Services extensions to JTAPI exceptions that can be used to program applications for any switch for which there is a PassageWay Telephony Services driver.

Who Should Be Using These Extensions?
An application programmer who, in addition to using the standard JTAPI package, wants additional TSAPI-specific information about the JTAPI exceptions to develop applications which will be used with any switch for which there is a PassageWay Telephony Services driver. It is assumed that this individual has a familiarity with the Java programming language, JTAPI, and TSAPI.

NOTE:
If you are an application programmer who is using JTAPI to develop applications for the DEFINITY switch, also refer to Chapter 1, "Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch." If you want to take advantage of DEFINITY-specific features that are not accessible through standard JTAPI, refer to Chapter 3, "Telephony Services DEFINITY-Specific Extensions to JTAPI."
NOTE:
If you are an independent switch vendor who is using the JTAPI private data programming environment to develop a private data package for non-DEFINITY switches, or an application programmer who is using or interpreting private data in a raw form, ignore this chapter and refer to Chapter 4, "Telephony Services Private Data Extensions to JTAPI."

What are the Extensions?

Telephony Services extensions to the JTAPI exceptions provide more detailed error information than is defined in JTAPI. These extensions consist of the CSTA and ACS error codes provided by TSAPI.

NOTE:
For information about Computer-Supported Telecommunications Applications (CSTA) and API Control Services (ACS) error codes, refer to the Telephony Services Application Programming Interface (TSAPI) Version 2.
package com.lucent.jtapi.tsapi

Interface Index

- ITsapiException

Exception Index

- TsapiInvalidArgumentException
- TsapiInvalidObjectException
- TsapiInvalidPartyException
- TsapiInvalidStateException
- TsapiMethodNotSupportedException
- TsapiPlatformException
- TsapiPrivilegeViolationException
- TsapiProviderUnavailableException
- TsapiResourceUnavailableException
Interface com.lucent.jtapi.tsapi.ITsapiException

public interface ITsapiException

The ITsapiException interface adds an errorType and errorCode to all J tapi exceptions. When the errorType is ACS or CSTA, the errorCode will contain the Tsapi ACS or CSTA error code which is documented in the Passageway Telephony Services Network Manager’s Guide in the TroubleShooting section (netmangd.pdf).

Variable Index

- **ACS**
  Error Type of ACS.
- **CSTA**
  Error Type of CSTA.
- **EC_INVALID_CONF**
  Error Code implying confirmation is invalid.
- **EC_NORMAL**
  Error Code of NORMAL.
- **EC_PROVIDER_OUT_OF_SERVICE**
  Error Code implying Provider is OUT_OF_SERVICE.
- **INTERNAL**
  Failure is internal to this J tapi implementation.
- **JTAPI**
  Failed to meet some J tapi condition.
- **NORMAL**
  Error Type of Normal.

Method Index

- **getErrorCode()**
  Returns the error code.
- **getErrorType()**
  Returns the error type.

Variables

- **NORMAL**

  public static final int NORMAL
Error Type of Normal.

- **ACS**
  
  public static final int ACS
  
  Error Type of ACS.

- **CSTA**
  
  public static final int CSTA
  
  Error Type of CSTA.

- **JTAPI**
  
  public static final int JTAPI
  
  Failed to meet some JTAPI condition.

- **INTERNAL**
  
  public static final int INTERNAL
  
  Failure is internal to this JTAPI implementation.

- **EC_NORMAL**
  
  public static final int EC_NORMAL
  
  Error Code of NORMAL.

- **EC_INVALID_CONF**
  
  public static final int EC_INVALID_CONF
  
  Error Code implying confirmation is invalid.

- **EC.Provider.OUT_OF_SERVICE**
  
  public static final int EC.Provider.OUT_OF_SERVICE
  
  Error Code implying Provider is OUT_OF_SERVICE.
Methods

- **getErrorType**

  ```java
  public abstract int getErrorType()
  ```

  Returns the error type.

- **getErrorCode**

  ```java
  public abstract int getErrorCode()
  ```

  Returns the error code.
Class com.lucent.jtapi.tsapi.TsapiInvalidArgumentException

java.lang.Object
 | +-----java.lang.Throwable
 |      | +-----java.lang.Exception
 |      |      | +-----javax.telephony.InvalidArgumentException
 |      |      |      +-----com.lucent.jtapi.tsapi.TsapiInvalidArgumentException

public final class TsapiInvalidArgumentException extends InvalidArgumentException implements ITsapiException

TsapiInvalidArgumentException extends Jtapi InvalidArgumentException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

- **getErrorCode()**
  Returns the error code.
- **getErrorType()**
  Returns the error type.

Methods

- **getErrorType**
  public int getErrorType()

    Returns the error type.

- **getErrorCode**
  public int getErrorCode()
Returns the error code.
Class com.lucent.jtapi.tsapi.TsapiInvalidPartyException

java.lang.Object
    ---- java.lang.Throwable
        ---- java.lang.Exception
            ---- javax.telephony.InvalidPartyException
                ---- com.lucent.jtapi.tsapi.TsapiInvalidPartyException

public final class TsapiInvalidPartyException
extends InvalidPartyException
implements ITsapiException

TsapiInvalidPartyException extends Jtapi InvalidPartyException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

- **getErrorType()**
  Returns the error type.
- **getErrorCode()**
  Returns the error code.

Methods

- **getErrorType**
  ```java
  public int getErrorType()
  
  Returns the error type.
  ```

- **getErrorCode**
  ```java
  public int getErrorCode()
  ```
Returns the error code.
Class com.lucent.jtapi.tsapi.TsapiInvalidStateException

java.lang.Object
  | +---- java.lang.Throwable
  |    | +----- java.lang.Exception
  |    |    | +----- javax.telephony.InvalidStateException
  |    |    |    +----- com.lucent.jtapi.tsapi.TsapiInvalidStateException

public final class TsapiInvalidStateException extends InvalidStateException implements ITsapiException

TsapiInvalidStateException extends Jtapi InvalidStateException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

- **getErrorType()**
  - Returns the error type.

- **getErrorCode()**
  - Returns the error code.

Methods

- **getErrorType**
  ```java
  public int getErrorType()
  
  Returns the error type.
  ```

- **getErrorCode**
  ```java
  public int getErrorCode()
  ```
Returns the error code.
Class
com.lucent.jtapi.tsapi.TsapiMethodNotSupportedException

does not support.

java.lang.Object
   +-----java.lang.Throwable
         +-----java.lang.Exception
               +-----javax.telephony.MethodNotSupportedException
                     +-----com.lucent.jtapi.tsapi.TsapiMethodNotSupportedException

public final class TsapiMethodNotSupportedException extends MethodNotSupportedException implements ITsapiException

TsapiMethodNotSupportedException extends MethodNotSupportedException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

- getErrorCode()
  Returns the error code.
- getErrorType()
  Returns the error type.

Methods

- getErrorType
  public int getErrorType()

    Returns the error type.

- getErrorCode
public int getErrorCode()

    Returns the error code.
Class com.lucent.jtapi.tsapi.TsapiPlatformException

java.lang.Object
 | +−−−−java.lang.Throwable
 |  | +−−−−java.lang.Exception
 |  |  | +−−−−java.lang.RuntimeException
 |  |  |  | +−−−−javax.telephony.PlatformException
 |  |  |  |  | +−−−−com.lucent.jtapi.tsapi.TsapiPlatformException

public final class TsapiPlatformException
extends PlatformException
implements ITsapiException

TsapiPlatformException extends Jtapi PlatformException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

 o getErrorCode()
   Returns the error code.
 o getErrorType()
   Returns the error type.

Methods

 o getErrorType
   public int getErrorType()

   Returns the error type.

 o getErrorCode
public int getErrorCode()

    Returns the error code.
Class
com.lucent.jtapi.tsapi.TsapiPrivilegeViolationException

public final class TsapiPrivilegeViolationException extends PrivilegeViolationException implements ITsapiException

TsapiPrivilegeViolationException extends PrivilegeViolationException to add acs / csta error codes.

Method Index

- **getErrorCode()**
  Returns the error code.
- **getErrorType()**
  Returns the error type.

Methods

- **getErrorType**
  
  public int getErrorType()
  
  Returns the error type.

- **getErrorCode**
  
  public int getErrorCode()
Returns the error code.
Class  
com.lucent.jtapi.tsapi.TsapiProviderUnavailableException

public final class TsapiProviderUnavailableException  
extends ProviderUnavailableException  
implements ITsapiException

TsapiProviderUnavailableException extends Jtapi ProviderUnavailableException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

- **getErrorCode()**
  Returns the error code.

- **getErrorType()**
  Returns the error type.

Methods

- **getErrorType()**
  
  public int getErrorType()
  
  Returns the error type.
**getErrorCode**

```java
public int getErrorCode()
    Returns the error code.
```
Class
com.lucent.jtapi.tsapi.TsapiResourceUnavailableException

java.lang.Object
 | +----java.lang.Throwable
 | | +----java.lang.Exception
 | | | +----javax.telephony.ResourceUnavailableException
 | | | | +----com.lucent.jtapi.tsapi.TsapiResourceUnavailableException

public final class TsapiResourceUnavailableException extends ResourceUnavailableException implements ITsapiException

TsapiResourceUnavailableException extends Jtapi ResourceUnavailableException to add implementation specific errorType and errorCode.

See ITsapiException for details on errorType and errorCode.

Method Index

o getErrorCode() Returns the error code.

o getErrorType() Returns the error type.

Methods

o getErrorType

public int getErrorType()

    Returns the error type.

o getErrorCode
public int getErrorCode()

    Returns the error code.
Using Telephony Services
DEFINITY-Specific Extensions
to JTAPI

Contents

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- How Should the Extensions be Used? 3-2
Using Telephony Services DEFINITY-Specific Extensions to JTAPI

NOTE:
This chapter describes non-standard additions to JTAPI. This package is available only from the PassageWay Telephony Services implementation of JTAPI and is not available from any other implementation of JTAPI.

This chapter is optional. It is an intermediate private data package that allows programmers to access private data via Java interfaces rather than through raw private data bytes. It contains the DEFINITY-specific feature extensions that support the Telephony Services implementation of JTAPI intended for applications that operate solely with the DEFINITY switch.

Who Should Be Using These Extensions?

An application programmer using JTAPI to develop applications that will be used with the DEFINITY switch and the associated PassageWay Telephony Services driver (i.e., the G3PD). In addition, these applications will take advantage of DEFINITY-specific features that are not accessible through standard JTAPI. It is assumed that this individual has a familiarity with both the Java programming language and JTAPI.

NOTE:
If you are an application programmer who is using JTAPI to develop applications for any switch for which there is a PassageWay Telephony Services driver, ignore this chapter and refer to Chapter 1, "Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch." If you want additional TSAPI-specific information about the JTAPI exceptions that are not accessible through standard JTAPI, refer to Chapter 2, "Using Telephony Services Extensions to JTAPI Exceptions."
NOTE:
If you are an independent switch vendor who is using the JTAPI private data programming environment to develop a private data package for non-DEFINITY switches, or an application programmer who is using or interpreting private data in a raw form, ignore this chapter and refer to Chapter 4, "Telephony Services Private Data Extensions to JTAPI."

How Should the Extensions be Used?

The DEFINITY-specific extensions to JTAPI make available DEFINITY features beyond those provided by the standard Telephony Services implementation of JTAPI. The following table lists each DEFINITY feature that is available as an extension to JTAPI, its description, its associated class or interface, and the methods returned or used by methods in each appropriate class or interface.

<table>
<thead>
<tr>
<th>Feature Name and Description</th>
<th>Class or Interface</th>
<th>Returned/Used by Methods in Class or Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent Work Mode</td>
<td>LucentAgent</td>
<td>LucentAgentStateInfo LucentTerminal</td>
</tr>
<tr>
<td>Call Classifier Information</td>
<td>CallClassifierInfo</td>
<td>LucentProvider</td>
</tr>
<tr>
<td>Collect Digits</td>
<td>LucentRouteSession</td>
<td></td>
</tr>
<tr>
<td>Dial-Ahead Digits</td>
<td>LucentRouteSession</td>
<td></td>
</tr>
<tr>
<td>Direct Agent Calls</td>
<td>LucentCall</td>
<td>LucentRouteSession</td>
</tr>
<tr>
<td>Dropping Resources</td>
<td>LucentConnection</td>
<td>LucentTerminalConnection</td>
</tr>
<tr>
<td>Integrated Directory Name</td>
<td>LucentAddress</td>
<td>LucentTerminal</td>
</tr>
<tr>
<td>Look-Ahead Interflow</td>
<td>LookaheadInfo</td>
<td>LucentCallInfo OriginalCallInfo</td>
</tr>
<tr>
<td>Feature Name and Description</td>
<td>Class or Interface</td>
<td>Returned/Used by Methods in Class or Interface</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Lucent Call Information</td>
<td>LucentCallInfo</td>
<td>Cast LucentCall and CallControlCall events to the LucentCallInfo interface for access</td>
</tr>
<tr>
<td>Provides Lucent-specific call information on Call and CallControlCall events; information includes delivering ACD, distributing Address, originating Trunk, reason for last Call event, and other information</td>
<td>lucentcallinfo</td>
<td></td>
</tr>
<tr>
<td>Message Waiting Application Information</td>
<td>LucentAddress</td>
<td>LucentAddressMsgWaitingEvent</td>
</tr>
<tr>
<td>Indicates which types of applications have enabled message waiting</td>
<td>lucentaddress</td>
<td></td>
</tr>
<tr>
<td>Network Progress Information</td>
<td>NetworkProgressInfo</td>
<td>LucentConnNetworkReachedEvent</td>
</tr>
<tr>
<td>Contains supplementary call progress information from the ISDN Progress Indicator Information Element</td>
<td>networkprogressinfo</td>
<td></td>
</tr>
<tr>
<td>Original Call Information</td>
<td>OriginalCallInfo</td>
<td>LucentCallInfo</td>
</tr>
<tr>
<td>Contains information about the original call in conjunction with the Call.consult() service</td>
<td>originalcallinfo</td>
<td></td>
</tr>
<tr>
<td>Priority Calls</td>
<td>LucentCall</td>
<td>LucentCall</td>
</tr>
<tr>
<td>Enables priority calling</td>
<td>lucentcall</td>
<td></td>
</tr>
<tr>
<td>Supervisor Assist Calls</td>
<td>LucentCall</td>
<td></td>
</tr>
<tr>
<td>Allows logged-in ACD Agents to place calls to a supervisor’s extension</td>
<td>lucentcall</td>
<td></td>
</tr>
<tr>
<td>Switch Date and Time Information</td>
<td>LucentProvider</td>
<td></td>
</tr>
<tr>
<td>Returns the current date and time from the switch</td>
<td>lucentprovider</td>
<td></td>
</tr>
<tr>
<td>Trunk Group Information</td>
<td>TrunkGroupInfo</td>
<td>LucentProvider</td>
</tr>
<tr>
<td>Provides information on trunk group usage</td>
<td>trunkgroupinfo</td>
<td></td>
</tr>
<tr>
<td>User Entered Code</td>
<td>UserEnteredCode</td>
<td>LucentCallInfo</td>
</tr>
<tr>
<td>The code/digits that may have been entered by the caller through the G3 Call Prompting feature of the Collected Digits feature</td>
<td>userenteredcode</td>
<td></td>
</tr>
<tr>
<td>User-to-User Information</td>
<td>UserToUserInfo</td>
<td>LucentCall</td>
</tr>
<tr>
<td>An ISDN feature that allows end-to-end transmission of application data during call setup/teardown</td>
<td>user-to-user-info</td>
<td>LucentCallInfo</td>
</tr>
</tbody>
</table>
package com.lucent.jtapi.tsapi

Interface Index

- ITsapiAddress
- ITsapiAddressMsgWaitingEvent
- ITsapiAgent
- ITsapiCall
- ITsapiCallInfo
- ITsapiConnNetworkReachedEvent
- ITsapiConnection
- ITsapiRouteSession
- ITsapiTerminal
- ITsapiTerminalConnection
- LucentAddress
- LucentAddressMsgWaitingEvent
- LucentAgent
- LucentCall
- LucentCallInfo
- LucentConnNetworkReachedEvent
- LucentConnection
- LucentProvider
- LucentRouteSession
- LucentTerminal
- LucentTerminalConnection

Class Index

- CallClassifierInfo
- LookaheadInfo
- LucentAgentStateInfo
- NetworkProgressInfo
- OriginalCallInfo
- TrunkGroupInfo
- UserEnteredCode
- UserToUserInfo
Interface com.lucent.jtapi.tsapi.ITsapiAddress

public interface ITsapiAddress
extends Address, CallControlAddress, CallCenterAddress, RouteAddress

ITsapiAddress extends Jtapi Address, CallControlAddress, CallCenterAddress, RouteAddress.

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

`ITsapiAddressMsgWaitingEvent` implements `Jtapi CallCtlAddrMessageWaitingEv`.

This interface was added so that `LucentAddressMsgWaitingEvent` could extend it and migration of methods from `LucentAddressMsgWaitingEvent` to `ITsapiAddressMsgWaitingEvent` would not affect applications using `LucentAddressMsgWaitingEvent`. Methods in `LucentAddressMsgWaitingEvent` currently map to `Tsapi Private Data` for Definity. It is expected that once the functionality is part of `Tsapi` the methods will migrate.
Interface com.lucent.jtapi.tsapi.ITsapiAgent

public interface ITsapiAgent
extends Agent

ITsapiAgent extends Agent.

This interface was added so that LucentAgent could extend it and migration of methods from LucentAgent to ITsapiAgent would not affect applications using LucentAgent. Methods in LucentAgent currently map to Tsapi Private Data for Definity. It is expected that once the functionality is part of Tsapi the methods will migrate.
Interface com.lucent.jtapi.tsapi.ITsapiCall

public interface ITsapiCall
extends ITsapiCallInfo, Call, CallControlCall, CallCenterCall

ITsapiCall extends Jtapi Call, CallControlCall, CallCenterCall.

This interface was added so that LucentCall could extend it and migration of methods from LucentCall to ITsapiCall would not affect applications using LucentCall. Methods in LucentCall currently map to Tsapi Private Data for Definity. It is expected that once the functionality is part of Tsapi the methods will migrate.
Interface com.lucent.jtapi.tsapi.ITsapiCallInfo

public interface ITsapiCallInfo

ITsapiCallInfo adds new call information for Call and events

This interface was added so that LucentCallInfo could extend it and migration of methods from LucentCallInfo to ITsapiCallInfo would not affect applications using LucentCallInfo. Methods in LucentCallInfo currently map to Tsapi Private Data for Definity. It is expected that once the functionality is part of Tsapi the methods will migrate.
Interface
com.lucent.jtapi.tsapi.ITsapiConnNetworkReachedEvent

public interface ITsapiConnNetworkReachedEvent
extends CallCtlConnNetworkReachedEv

ITsapiConnNetworkReachedEvent extends Jtapi CallCtlConnNetworkReachedEv.

This interface was added so that LucentConnNetworkReachedEvent could extend it and
migration of methods from LucentConnNetworkReachedEvent to
ITsapiConnNetworkReachedEvent would not affect applications using
LucentConnNetworkReachedEvent. Methods in LucentConnNetworkReachedEvent
currently map to Tsapi Private Data for Definity. It is expected that once the
functionality is part of Tsapi the methods will migrate.
Interface com.lucent.jtapi.tsapi.ITsapiConnection

public interface ITsapiConnection
extends Connection, CallControlConnection

ITsapiConnection extends Jtapi Connection and CallControlConnection.

This interface was added so that LucentConnection could extend it and migration of
methods from LucentConnection to ITsapiConnection would not affect applications using
LucentConnection. Methods in LucentConnection currently map to Tsapi Private Data
for Definity. It is expected that once the functionality is part of Tsapi the methods will
migrate.
Interface com.lucent.jtapi.tsapi.ITsapiRouteSession

public interface ITsapiRouteSession
extends RouteSession, ITsapiCallInfo

ITsapiRouteSession extends Jtapi RouteSession.

This interface was added so that LucentRouteSession could extend it and migration of methods from LucentRouteSession to ITsapiRouteSession would not affect applications using LucentRouteSession. Methods in LucentRouteSession currently map to Tsapi Private Data for Definity. It is expected that once the functionality is part of Tsapi the methods will migrate.
Interface com.lucent.jtapi.tsapi.ITsapiTerminal

public interface ITsapiTerminal
extends Terminal, CallControlTerminal, AgentTerminal

ITsapiTerminal extends Terminal, CallControlTerminal and AgentTerminal.

This interface was added so that LucentTerminal could extend it and migration of methods from LucentTerminal to ITsapiTerminal would not affect applications using LucentTerminal. Methods in LucentTerminal currently map to Tsapi Private Data for Definity. It is expected that once the functionality is part of Tsapi the methods will migrate.
Interface com.lucent.jtapi.tsapi.ITsapiTerminalConnection

public interface ITsapiTerminalConnection
extends TerminalConnection, CallControlTerminalConnection,
MediaTerminalConnection

ITsapiTerminalConnection extends TerminalConnection,
CallControlTerminalConnection, and MediaTerminalConnection.

This interface was added so that LucentTerminalConnection could extend it and
migration of methods from LucentTerminalConnection to ITsapiTerminalConnection
would not affect applications using LucentTerminalConnection. Methods in
LucentTerminalConnection currently map to Tsapi Private Data for Definity. It is
expected that once the functionality is part of Tsapi the methods will migrate.
Interface com.lucent.jtapi.tsapi.LucentAddress

public interface LucentAddress extends ITsapiAddress

This interface adds Lucent-specific methods to the Address interface.

---

Variable Index

- **MWI_CTI**
  - The message waiting indicator has been enabled via CTI.
- **MWI_LWC**
  - The message waiting indicator has been enabled via Leave Word Calling.
- **MWI_MCS**
  - The message waiting indicator has been enabled via Message Center.
- **MWI_PROPMGT**
  - The message waiting indicator has been enabled via Property Management.
- **MWI_VOICE**
  - The message waiting indicator has been enabled via Voice Messaging.

Method Index

- **getDirectoryName()**
  - Returns the G3 PBX Integrated Directory Database name corresponding to this Address.
- **getMessageWaitingBits()**
  - Returns a bit-mask indicating which applications have enabled the message waiting indicator at this Address.

Variables

- **MWI_MCS**

  public static final int MWI_MCS

  The message waiting indicator has been enabled via Message Center.

- **MWI_VOICE**

  public static final int MWI_VOICE
The message waiting indicator has been enabled via Voice Messaging.

- **MWI_PROPMGT**

  ```java
  public static final int MWI_PROPMGT
  ``

  The message waiting indicator has been enabled via Property Management.

- **MWI_LWC**

  ```java
  public static final int MWI_LWC
  ``

  The message waiting indicator has been enabled via Leave Word Calling.

- **MWI_CTI**

  ```java
  public static final int MWI_CTI
  ``

  The message waiting indicator has been enabled via CTI.

**Methods**

- **getMessageWaitingBits**

  ```java
  public abstract int getMessageWaitingBits() throws TsapiMethodNotSupportedException
  ``

  Returns a bit-mask indicating which applications have enabled the message waiting indicator at this Address. Its value is a logical-OR combination of MWI_MCS, MWI_VOICE, MWI_PROPMGT, MWI_LWC, and/or MWI_CTI. If the return value is 0, then the message waiting indicator is OFF.

- **getDirectoryName**

  ```java
  public abstract String getDirectoryName()
  ``

  Returns the G3 PBX Integrated Directory Database name corresponding to this Address.
Interface
com.lucent.jtapi.tsapi.LucentAddressMsgWaitingEvent

public interface LucentAddressMsgWaitingEvent
extends ITsapiAddressMsgWaitingEvent

This interface add Lucent−specific methods to the CallCtlAddrMessageWaitingEv interface.

Method Index

- getMessageWaitingBits()
  Returns a bit−mask indicating which applications have enabled the message waiting indicator at this Address.

Methods

- getMessageWaitingBits

  public abstract int getMessageWaitingBits()

  Returns a bit−mask indicating which applications have enabled the message waiting indicator at this Address. Its value is a logical−OR combination of MWI_MCS, MWI_VOICE, MWI_PROPMTGT, MWI_LWC, and/or MWI_CTI. If the return value is 0, then the message waiting indicator is OFF.

See Also:
  LucentAddress
The `LucentAgent` interface extends the `ITsapiAgent` interface.

### Variable Index

- **MODE_AUTO_IN**
  - In this work mode the agent is put into the `Agent.READY` state immediately after disconnecting from a previous call and can be delivered a new call.

- **MODE_MANUAL_IN**
  - In this work mode the agent is put into the `Agent.WORK_NOT_READY` immediately after disconnecting from a previous call and cannot be delivered a new call.

- **MODE_NONE**
  - This implies the agent’s work mode is not being set.

### Method Index

- **getStateInfo()**
  - This returns this `Agent`'s state and workMode.

- **setState(int, int)**
  - This method overrides `Agent.setState()` to add the Lucent-specific parameter `workMode`.

### Variables

- **MODE_NONE**
  - `public static final int MODE_NONE`
  - This implies the agent’s work mode is not being set.

- **MODE_AUTO_IN**
  - `public static final int MODE_AUTO_IN`
  - In this work mode the agent is put into the `Agent.READY` state immediately after
disconnecting from a previous call and can be delivered a new call.

- **MODE_MANUAL_IN**

  `public static final int MODE_MANUAL_IN`

  In this work mode the agent is put into the `Agent.WORK_NOT_READY` immediately after disconnecting from a previous call and cannot be delivered a new call.

**Methods**

- **setState**

  `public abstract void setState(int state, int workMode) throws TsapiInvalidArgumentException, TsapiInvalidStateException`

  This method overrides `Agent.setState()` to add the Lucent–specific parameter `workMode`. It changes the state and `workMode` of a previously added `Agent`.

  The post and pre conditions are as follows:

  **Pre−condition predicates for this method are:**
  1. `this.getTerminal.getProvider().getState() == IN_SERVICE`
  2. `this.getStateInfo (appropriate state and workMode)`

  **Post−condition predicates for this method are:**
  1. `this.getTerminal.getProvider().getState() == IN_SERVICE`
  2. `this.getStateInfo() == state and workMode ( specified as a parameter )`

  **Parameters:**
  - `state` — specifies the state this `Agent` should be set to. Valid states are `READY, NOT_READY, WORK_READY` and `WORK_NOT_READY`.
  - `workMode` — specifies the state this `Agent` should be set to. Valid `workModes` are `MODE_AUTO_IN` and `MODE_MANUAL_IN`.

  **Throws:**
  - `TsapiInvalidArgumentException` — At least one of the arguments passed in is not valid.
  - `TsapiInvalidStateException` — Implementation determined Agent was in an invalid state for this method.

- **getStateInfo**

  `public abstract LucentAgentStateInfo getStateInfo()`

  This returns this `Agent`’s state and `workMode`.

  Valid values of state returned are `UNKNOWN, BUSY, READY, NOT_READY, WORK_READY, WORK_NOT_READY, LOG_IN` and `LOG_OUT`. Valid values of
workModes are MODE_AUTO_IN and MODE_MANUAL_IN.
The LucentCall interface extends ITsapiCall with Lucent-specific features. When a Provider is bound to a Lucent switch, this interface may be used to access additional capabilities.

Direct-agent calling may be used by an application to place a call to a specific logged-in ACD agent. Supervisor-assist calling may be used by an application to place a call from a logged-in ACD agent to a supervisor. These features are also available on consultation calls. These types of calls may be tracked separately by ACD measurement software in the PBX.

User-to-user information is an ISDN feature which allows end-to-end transmission of application data during call setup/teardown. This information may be a customer number, credit card number, alphanumeric digits, or a binary string. It is propagated with the call whether the call is made to a destination on the local switch or to a destination on a remote switch over PRI trunks. The switch sends the UUI in the ISDN SETUP message over the PRI trunk to establish the call. The local and the remote switch include the UUI in the alerting, connected, disconnected and route request events.

See Also:
UserToUserInfo

Method Index

- **connect** *(Terminal, Address, String, boolean, UserToUserInfo)*
  Similar to the standard connect(), with the addition of Lucent-specific call parameters.

- **connectDirectAgent** *(Terminal, Address, Agent, boolean, UserToUserInfo)*
  Places a direct call to a specific logged-in ACD agent.

- **connectPredictive** *(Terminal, Address, String, int, int, int, int, boolean, UserToUserInfo)*
  Similar to the standard connectPredictive(), with the addition of Lucent-specific call parameters.

- **connectSupervisorAssist** *(Agent, String, UserToUserInfo)*
  Places a call from a logged-in ACD agent to a supervisor's extension.

- **consult** *(TerminalConnection, String, boolean, UserToUserInfo)*
Similar to the standard consult(), with the addition of Lucent–specific call parameters.

- **consultDirectAgent** *(TerminalConnection, Agent, boolean, UserToUserInfo)*
  Places a consultation call with a specific logged-in ACD agent.

- **consultSupervisorAssist** *(TerminalConnection, ACDAddress, String, UserToUserInfo)*
  Places a consultation call from a logged-in ACD agent to a supervisor’s extension.

**Methods**

- **connect**

  ```java
  public abstract Connection[] connect(Terminal origterm,
          Address origaddr,
          String dialedDigits,
          boolean priorityCall,
          UserToUserInfo userInfo) throws TsapiResourceUnavailableException
  ```

  Similar to the standard connect(), with the addition of Lucent–specific call parameters.

  **Parameters:**
  - `origterm` – The originating Terminal for this telephone call.
  - `origaddr` – The originating Address for this telephone call.
  - `dialedDigits` – The dialable destination string for this telephone call.
  - `priorityCall` – If true, attempt to place a priority call.
  - `userInfo` – Associate caller information, up to 32 bytes, with the call.

  **See Also:**
  - `UserToUserInfo`

- **connectDirectAgent**

  ```java
  public abstract Connection[] connectDirectAgent(Terminal origterm,
          Address origaddr,
          Agent calledAgent,
          boolean priorityCall,
          UserToUserInfo userInfo) throws TsapiResourceUnavailableException
  ```

  Places a direct call to a specific logged-in ACD agent.

  **Parameters:**
  - `origterm` – The originating Terminal for this telephone call.
  - `origaddr` – The originating Address for this telephone call.
  - `calledAgent` – The ACD agent extension to be called.
  - `priorityCall` – If true, attempt to place a priority call.
  - `userInfo` – Associate caller information, up to 32 bytes, with the call.

  **See Also:**
  - `UserToUserInfo`
**connectSupervisorAssist**

```java
public abstract Connection[] connectSupervisorAssist(Agent callingAgent,
                                                      String dialedDigits,
                                                      UserToUserInfo userInfo) throws TsapiResourceUnavailable
```

Places a call from a logged-in ACD agent to a supervisor’s extension.

**Parameters:**
- `callingAgent` - The ACD agent extension from which to originate the call.
- `dialedDigits` - The supervisor’s extension.
- `userInfo` - Associate caller information, up to 32 bytes, with the call.

**See Also:**
- `UserToUserInfo`

**connectPredictive**

```java
public abstract Connection[] connectPredictive(Terminal originatorTerminal,
                                              Address origAddress,
                                              String dialedDigits,
                                              int connectionState,
                                              int maxRings,
                                              int answeringTreatment,
                                              int answeringEndpointType,
                                              boolean priorityCall,
                                              UserToUserInfo userInfo) throws TsapiResourceUnavailable
```

Similar to the standard `connectPredictive()`, with the addition of Lucent-specific call parameters.

**Parameters:**
- `originatorTerminal` - The originating Terminal of the telephone call. This is optional when the originator is for example an ACDAddress.
- `origAddress` - The originating Address of the telephone call.
- `dialedDigits` - This must be a complete and valid telephone number.
- `connectionState` - The application may set this to CONNECTED ALERTING, NETWORK_REACHED or NETWORK_ALERTING.
- `maxRings` - This specifies the number of rings that are allowed before classifying the call as no answer. The allowed range is from MIN_RINGS of 2 to MAX_RINGS of 15.
- `answeringTreatment` - This specifies the call treatment when an answering endpoint is detected. The set includes
  - `ANSWERING_TREATMENT_PROVIDER_DEFAULT`,
  - `ANSWERING_TREATMENT_DROP`,
  - `ANSWERING_TREATMENT_CONNECT` and
  - `ANSWERING_TREATMENT_NONE`.
- `answeringEndpointType` - This specifies the type of answering endpoint. The set includes ENDPOINT_ANSWERING_MACHINE,
  - `ENDPOINT_FAX_MACHINE`, `ENDPOINT_HUMAN_INTERVENTION`,
  - `ENDPOINT_ANY`.
- `priorityCall` - If true, attempt to place a priority call
userInfo – Associate caller information, up to 32 bytes, with the call.

See Also:
UserToUserInfo

consult

public abstract Connection[] consult(TerminalConnection termconn,
   String address,
   boolean priorityCall,
   UserToUserInfo userInfo) throws TsapiInvalidStateException, TsapiException

Similar to the standard consult(), with the addition of Lucent–specific call
parameters.

Parameters:
   termconn – The controlling TerminalConnection for the consultation call.
   address – The dialable destination string for this telephone call.
   priorityCall – If true, attempt to place a priority call
   userInfo – Associate caller information, up to 32 bytes, with the call.

See Also:
UserToUserInfo

consultDirectAgent

public abstract Connection[] consultDirectAgent(TerminalConnection termconn,
   Agent calledAgent,
   boolean priorityCall,
   UserToUserInfo userInfo) throws TsapiInvalidStateException

Places a consultation call with a specific logged–in ACD agent.

Parameters:
   termconn – The controlling TerminalConnection for the consultation call.
   calledAgent – The ACD agent extension to be called.
   priorityCall – If true, attempt to place a priority call
   userInfo – Associate caller information, up to 32 bytes, with the call.

See Also:
UserToUserInfo

consultSupervisorAssist

public abstract Connection[] consultSupervisorAssist(TerminalConnection termconn,
   ACDAddress split,
   String address,
   UserToUserInfo userInfo) throws TsapiInvalidStateException

Places a consultation call from a logged–in ACD agent to a supervisor's extension.

Parameters:
   termconn – The controlling TerminalConnection for the consultation call.
split – The split which the originating ACD agent is logged into.
address – The supervisor’s extension.
userInfo – Associate caller information, up to 32 bytes, with the call.

See Also:
UserToUserInfo
The LucentCallInfo interface provides access methods for Lucent-specific call information. These methods are implemented on the call object and on call control call events. For example, if a CallControlCallObserver receives a CallCtlConnAlertingEv, it may be cast to LucentCallInfo to use the getUserToUserInfo() method. These methods may return null if the requested data is not available.

Variable Index

- AR_ANSWER_MACHINE_DETECTED
- AR_ANSWER_NORMAL
- AR_ANSWER_TIMED
- AR_ANSWER_VOICE_ENERGY
- AR_IN_QUEUE
- AR_NONE
- AR_SIT_INEFFECTIVE_OTHER
- AR_SIT_INTERCEPT
- AR_SIT_NO_CIRCUIT
- AR_SIT_REORDER
- AR_SIT_UNKNOWN
- AR_SIT_VACANT_CODE

Method Index

- getDeliveringACDAddress()
  For a connection to an AgentTerminal, getDeliveringACDAddress returns the ACDAddress that this call was delivered through to the AgentTerminal.
- getDistributingAddress()
  For a connection to an AgentTerminal, getDistributingAddress returns the ACDAddress or ACDManagerAddress that was an intermediate endpoint before the call terminated at the AgentTerminal.
- getLookaheadInfo()
  Returns lookahead interflow information associated with the call event.
- getOriginalCallInfo()
  Returns original call information associated with the call event.
- getReason()
Specifies the reason for the last event sent for Connections and TerminalConnections on the Call or the Call.

- `getTrunk()`
  Returns the trunk from which the call originated.
- `getUserEnteredCode()`
  Returns call prompting digits associated with the call event.
- `getUserToUserInfo()`
  Returns user–to–user information associated with the call event.

**Variables**

- **AR_NONE**
  ```java
  public static final short AR_NONE
  ```

- **AR_ANSWER_NORMAL**
  ```java
  public static final short AR_ANSWER_NORMAL
  ```

- **AR_ANSWER_TIMED**
  ```java
  public static final short AR_ANSWER_TIMED
  ```

- **AR_ANSWER_VOICE_ENERGY**
  ```java
  public static final short AR_ANSWER_VOICE_ENERGY
  ```

- **AR_ANSWER_MACHINE_DETECTED**
  ```java
  public static final short AR_ANSWER_MACHINE_DETECTED
  ```

- **AR_SIT_REORDER**
  ```java
  public static final short AR_SIT_REORDER
  ```

- **AR_SIT_NO_CIRCUIT**
  ```java
  public static final short AR_SIT_NO_CIRCUIT
  ```

- **AR_SIT_INTERCEPT**
  ```java
  public static final short AR_SIT_INTERCEPT
  ```

- **AR_SIT_VACANT_CODE**
  ```java
  public static final short AR_SIT_VACANT_CODE
  ```

- **AR_SIT_INEFFECTIVE_OTHER**
  ```java
  public static final short AR_SIT_INEFFECTIVE_OTHER
  ```
public static final short AR_SIT_INEFFECTIVE_OTHER

0 AR_SIT_UNKNOWN

public static final short AR_SIT_UNKNOWN

0 AR_IN_QUEUE

public static final short AR_IN_QUEUE

Methods

0 getUserToUserInfo

public abstract UserToUserInfo getUserToUserInfo()

Returns user-to-user information associated with the call event.

0 getLookaheadInfo

public abstract LookaheadInfo getLookaheadInfo()

Returns lookahead interflow information associated with the call event.

0 getUserEnteredCode

public abstract UserEnteredCode getUserEnteredCode()

Returns call prompting digits associated with the call event.

0 getOriginalCallInfo

public abstract OriginalCallInfo getOriginalCallInfo()

Returns original call information associated with the call event.

0 getDistributingAddress

public abstract CallCenterAddress getDistributingAddress()

For a connection to an AgentTerminal, getDistributingAddress returns the ACDDAddress or ACDManagerAddress that was an intermediate endpoint before the call terminated at the AgentTerminal.

0 getDeliveringACDAddress

public abstract ACDDAddress getDeliveringACDAddress()
For a connection to an AgentTerminal, getDeliveringACDAddress returns the ACDAddress that this call was delivered through to the AgentTerminal.

\section*{getTrunk}

\begin{verbatim}
public abstract CallCenterTrunk getTrunk()
\end{verbatim}

Returns the trunk from which the call originated.

\section*{getReason}

\begin{verbatim}
public abstract short getReason()
\end{verbatim}

Specifies the reason for the last event sent for Connections and TerminalConnections on the Call or the Call.
Interface
com.lucent.jtapi.tsapi.LucentConnNetworkReachedEvent

public interface LucentConnNetworkReachedEvent
extends ITsapiConnNetworkReachedEvent

Returns supplementary call progress information from the ISDN Progress Indicator Information Element.

Method Index

- getNetworkProgressInfo()
  Get the supplementary call progress information

Methods

- getNetworkProgressInfo
  public abstract NetworkProgressInfo getNetworkProgressInfo()
  Get the supplementary call progress information
Interface com.lucent.jtapi.tsapi.LucentConnection

public interface LucentConnection
extends ITsapiConnection

The LucentConnection interface extends ITsapiConnection with Lucent–specific features. When a Provider is bound to a Lucent switch, this interface may be used to access additional capabilities.

Variable Index

- **DR_CALL_CLASSIFIER**
  - Drop a call classifier from the call.
- **DR_NONE**
- **DR_TONE_GENERATOR**
  - Drop a tone generator from the call.

Method Index

- **disconnect**(short, UserToUserInfo)
  - Similar to the standard disconnect(), with the addition of Lucent–specific parameters.

Variables

- **DR_NONE**
  - public static final short DR_NONE

- **DR_CALL_CLASSIFIER**
  - public static final short DR_CALL_CLASSIFIER
    - Drop a call classifier from the call.

- **DR_TONE_GENERATOR**
  - public static final short DR_TONE_GENERATOR
    - Drop a tone generator from the call.
Methods

- **disconnect**

  ```java
  public abstract void disconnect(short dropResource, UserToUserUserInfo userInfo) throws TsapiPrivilegeViolationException, TsapiException;
  ```

  Similar to the standard `disconnect()`, with the addition of Lucent-specific parameters.

  **Parameters:**
  - `dropResource` – The resource to be dropped from the call. Possible values are `DR_CALL_CLASSIFIER`, `DR_TONE_GENERATOR`, and `DR_NONE`.
  - `userInfo` – Associate caller information, up to 32 bytes, with the call.

  **See Also:**
  ```java
  UserToUserUserInfo
  ```
Interface com.lucent.jtapi.tsapi.LucentProvider

public interface LucentProvider extends ITsapiProvider

LucentProvider adds methods to obtain Lucent−specific switch information.

Method Index

- **getCallClassifierInfo()**
  Returns information on call classifier port usage.
- **getSwitchDateAndTime()**
  Returns current date and time from the switch.
- **getTrunkGroupInfo(String)**
  Returns trunk usage information on the specified trunk group.

Methods

- **getTrunkGroupInfo**
  public abstract TrunkGroupInfo getTrunkGroupInfo(String trunkAccessCode)
  Returns trunk usage information on the specified trunk group.

- **getCallClassifierInfo**
  public abstract CallClassifierInfo getCallClassifierInfo()
  Returns information on call classifier port usage.

- **getSwitchDateAndTime**
  public abstract Date getSwitchDateAndTime()
  Returns current date and time from the switch.
Interface com.lucent.jtapi.tsapi.LucentRouteSession

public interface LucentRouteSession
extends ITsapiRouteSession

The LucentRouteSession interface extends ITsapiRouteSession with Lucent-specific features. When a Provider is bound to a Lucent switch, this interface may be used to access additional capabilities.

Method Index

- **selectRoute**<br>Similar to the standard selectRoute(), with the addition of Lucent-specific call parameters.
- **selectRouteAndCollect**<br>Routes a call and requests DTMF digit collection.
- **selectRouteDirectAgent**<br>Routes a direct agent call to a specific logged-in ACD agent.
- **selectRouteWithDigits**<br>Routes a call and places digits in a dial-ahead digit buffer.

Methods

- **selectRoute**

  public abstract void selectRoute(String routeSelected, boolean priorityCall, UserToUserInfo userInfo) throws TsapiMethodNotSupportedException

  Similar to the standard selectRoute(), with the addition of Lucent-specific call parameters.

  **Parameters:**
  - routeSelected — The selected route for this call. (Note that this is NOT an array.)
  - priorityCall — If true, attempt to place a priority call
  - userInfo — Associate caller information, up to 32 bytes, with the call.

  **See Also:**
  UserToUserInfo
public abstract void selectRouteDirectAgent(Agent calledAgent,
        boolean priorityCall,
        UserToUserInfo userInfo) throws TsapiMethodNotSupportedEx

Routes a direct agent call to a specific logged-in ACD agent.

**Parameters:**
calledAgent — The ACD agent extension to route to.
priorityCall — If true, attempt to place a priority call
userInfo — Associate caller information, up to 32 bytes, with the call.

**See Also:**
UserToUserInfo

public abstract void selectRouteAndCollect(String routeSelected,
        int digitsToBeCollected,
        int timeout,
        boolean priorityCall,
        UserToUserInfo userInfo) throws TsapiMethodNotSupportedEx

Routes a call and requests DTMF digit collection.

**Parameters:**
routeSelected — The selected route for this call. (Note that this is NOT an
array.)
digitsToBeCollected — The number of digits to be collected (up to 24).
timeout — The number of seconds to wait (up to 63) before digit collection
times out.
priorityCall — If true, attempt to place a priority call
userInfo — Associate caller information, up to 32 bytes, with the call.

**See Also:**
UserToUserInfo

public abstract void selectRouteWithDigits(String routeSelected,
        String digits,
        boolean priorityCall,
        UserToUserInfo userInfo) throws TsapiMethodNotSupportedEx

Routes a call and places digits in a dial-ahead digit buffer.

**Parameters:**
routeSelected — The selected route for this call. (Note that this is NOT an
array.)
digits — A string of up to 24 characters (0–9, *, and # only) to place in the
dial-ahead digit buffer.
priorityCall — If true, attempt to place a priority call
userInfo — Associate caller information, up to 32 bytes, with the call.

See Also:
UserToUserInfo
Interface com.lucent.jtapi.tsapi.LucentTerminal

public interface LucentTerminal
extends ITsapiTerminal

The LucentTerminal interface extends the ITsapiTerminal interface.

Method Index

- `addAgent(Address, ACDAddress, int, int, String, String)`
  This method overrides Terminal.addAgent() to add the Lucent-specific parameter workMode.
- `getDirectoryName()`
  Return Directory name of this Terminal.

Methods

- `addAgent`

  public abstract Agent addAgent(Address agentAddress, ACDAddress acdAddress, int initialState, int workMode, String agentID, String password) throws TsapiInvalidArgumentException, TsapiInvalidState

  This method overrides Terminal.addAgent() to add the Lucent-specific parameter workMode. It creates an Agent object, adds it to this AgentTerminal and returns the Agent object.

  An Agent object represents an AgentTerminal logged into an ACDAddress.

  If the getAgents() method is invoked subsequently it will return this Agent object.

  The Agent can be removed from this AgentTerminal by invoking the removeAgent() method.

  The pre-condition predicates for this method are:
  1. this.getProvider().getState() == IN_SERVICE

  The post-condition predicates for this method are:
1. `this.getProvider().getState() == IN_SERVICE`
2. `(this.getAgents() union agent) == agent`
3. `agent.getStateInfo == initial state and workMode (specified as a parameter)`

**Parameters:**
- `agentAddress` – specifies that Address on this Terminal that this request is for, where the Terminal may support several addresses.
- `acdAddress` – specifies the address of the ACD that the Terminal is requested to be logged in to.
- `initialState` – is the state the specified state requested, it must be one of the states specified in the Agent object READY or NOT_READY.
- `workMode` – specifies the state this Agent should be set to. Valid workModes are MODE_AUTO_IN and MODE_MANUAL_IN.
- `agentID` – is the Agents ID.
- `password` – is the Agents password.

**Returns:**
An Agent object representing the association between this AgentTerminal and the ACDAddress specified in the request.

**Throws:**
- `TsapiInvalidArgumentException` At least one of the arguments provided is not valid.
- `TsapiInvalidStateException` Implementation determined AgentTerminal was in an invalid state for this method.

---

### `getDirectoryName`

```
public abstract String getDirectoryName()
```

Return Directory name of this Terminal.
Interface com.lucent.jtapi.tsapi.LucentTerminalConnection

public interface LucentTerminalConnection extends ITsapiTerminalConnection

The LucentTerminalConnection interface extends ITsapiTerminalConnection with Lucent-specific features. When a Provider is bound to a Lucent switch, this interface may be used to access additional capabilities.

Variable Index

- **DR_CALL_CLASSIFIER**: Drop a call classifier from the call.
- **DR_NONE**: Drop a call classifier from the call.
- **DR_TONE_GENERATOR**: Drop a tone generator from the call.

Method Index

- **leave**(short, UserToUserInfo)
  Similar to the standard leave(), with the addition of Lucent-specific parameters.

Variables

- **DR_NONE**
  public static final short DR_NONE

- **DR_CALL_CLASSIFIER**
  public static final short DR_CALL_CLASSIFIER

- **DR_TONE_GENERATOR**
  public static final short DR_TONE_GENERATOR
Methods

leave

```java
public abstract void leave(short dropResource,
        UserToUserInfo userInfo) throws TsapiInvalidStateException,
        TsapiMethodNo
```

Similar to the standard `leave()`, with the addition of Lucent-specific parameters.

**Parameters:**
- `dropResource` - The resource to be dropped from the call. Possible values are `DR_CALL_CLASSIFIER`, `DR_TONE_GENERATOR`, and `DR_NONE`.
- `userInfo` - Associate caller information, up to 32 bytes, with the call.

**See Also:**
- `disconnect`, `UserToUserInfo`
Class `com.lucent.jtapi.tsapi.CallClassifierInfo`

java.lang.Object  
  +−−−−com.lucent.jtapi.tsapi.ASN1  
  |  +−−−−com.lucent.jtapi.tsapi.ASNSequence  
  |  |  +−−−−com.lucent.jtapi.tsapi.LucentPrivateData  
  |  |  |  +−−−−com.lucent.jtapi.tsapi.CallClassifierInfo

Public final class **CallClassifierInfo** extends LucentPrivateData

Provides information on call classifier port usage.

**Variable Index**

- **numAvailPorts**
  - The number of available call classifier ports.
- **numInUsePorts**
  - The number of in-use call classifier ports.

**Variables**

- **numAvailPorts**
  
    public int numAvailPorts

    The number of available call classifier ports.

- **numInUsePorts**
  
    public int numInUsePorts

    The number of in-use call classifier ports.
public final class LookaheadInfo extends LucentPrivateData

Lookahead interflow is a G3 switch feature that routes some of the incoming calls from one switch to another so that they can be handled more efficiently and will not be lost. The lookahead interflow information is provided by the switch that overflows the call. The routing server application may use the lookahead interflow information to determine the destination of the call.

Variable Index

- LAI_ALL_INTERFLOW
- LAI_HIGH
- LAI_LOW
- LAI_MEDIUM
- LAI_NOT_IN_QUEUE
- LAI_THRESHOLD_INTERFLOW
- LAI_TOP
- LAI_VECTORING_INTERFLOW

Method Index

- getHours()
  - Gets the ‘hours’ part of the event timestamp.
- getMinutes()
  - Gets the ‘minutes’ part of the event timestamp.
Priority of the interflowed call.
- getSeconds()
  Gets the ‘seconds’ part of the event timestamp.
- getSourceVDN()
  Returns the address of the VDN which overflowed the call.
- getType()
  Type of interflow.

Variables
- LAI_ALL_INTERFLOW

  public static final short LAI_ALL_INTERFLOW

- LAI_THRESHOLD_INTERFLOW

  public static final short LAI_THRESHOLD_INTERFLOW

- LAI_VECTORING_INTERFLOW

  public static final short LAI_VECTORING_INTERFLOW

- LAI_NOT_IN_QUEUE

  public static final short LAI_NOT_IN_QUEUE

- LAI_LOW

  public static final short LAI_LOW

- LAI_MEDIUM

  public static final short LAI_MEDIUM

- LAI_HIGH

  public static final short LAI_HIGH

- LAI_TOP

  public static final short LAI_TOP

Methods
- getType

  public short getType()
Type of interflow. Possible values are LAI_ALL_INTERFLOW, LAI_THRESHOLD_INTERFLOW, and LAI_VECTORING_INTERFLOW.

- **getPriority**

  public short getPriority()

  Priority of the interflowed call. Possible values are LAI_NOT_IN_QUEUE, LAI_LOW, LAI_MEDIUM, LAI_HIGH, and LAI_TOP.

- **getHours**

  public int getHours()

  Gets the ‘hours’ part of the event timestamp.

- **getMinutes**

  public int getMinutes()

  Gets the ‘minutes’ part of the event timestamp.

- **getSeconds**

  public int getSeconds()

  Gets the ‘seconds’ part of the event timestamp.

- **getSourceVDN**

  public ACDManagerAddress getSourceVDN()

  Returns the address of the VDN which overflowed the call.
Class com.lucent.jtapi.tsapi.LucentAgentStateInfo

java.lang.Object
    +----com.lucent.jtapi.tsapi.LucentAgentStateInfo

public final class LucentAgentStateInfo
    extends Object

This is the object that is returned by the query getStateInfo in LucentAgent. It returns both the state and workMode for the Agent.

See LucentAgent for details.

Variable Index

- **state**
  State of Agent.
- **workMode**
  Work Mode for Agent.

Constructor Index

- **LucentAgentStateInfo**(int, int)
  Public Constructor.

Variables

- **state**
  
  public int state
  
  State of Agent.

- **workMode**
  
  public int workMode
Work Mode for Agent.

**Constructors**

- **LucentAgentStateInfo**

  ```java
  public LucentAgentStateInfo(int _state,
                              int _workMode)
  
  Public Constructor.
  ```
public final class NetworkProgressInfo extends LucentPrivateData

Contains supplementary call progress information from the ISDN Progress Indicator Information Element.

Variable Index

- **PD CALL OFF ISDN**
- **PD CALL ON ISDN**
- **PD DEST NOT ISDN**
- **PD INBAND**
- **PD ORIG NOT ISDN**
- **PL PRIV REMOTE**
- **PL PUB LOCAL**
- **PL PUB REMOTE**
- **PL_USER**
- **progressDescription**
  - Specifies the progress description in a Progress Indicator Information Element from the PRI network.
- **progressLocation**
  - Specifies the progress location in a Progress Indicator Information Element from the PRI network.
Variables

- **PL_USER**
  public static final short PL_USER

- **PL_PUB_LOCAL**
  public static final short PL_PUB_LOCAL

- **PL_PUB_REMOTE**
  public static final short PL_PUB_REMOTE

- **PL_PRIV_REMOTE**
  public static final short PL_PRIV_REMOTE

- **PD_CALL_OFF_ISDN**
  public static final short PD_CALL_OFF_ISDN

- **PD_DEST_NOT_ISDN**
  public static final short PD_DEST_NOT_ISDN

- **PD_ORIG_NOT_ISDN**
  public static final short PD_ORIG_NOT_ISDN

- **PD_CALL_ON_ISDN**
  public static final short PD_CALL_ON_ISDN

- **PD_INBAND**
  public static final short PD_INBAND

- **progressLocation**
  public short progressLocation
  Specifies the progress location in a Progress Indicator Information Element from the PRI network. Possible values are PL_USER, PL_PUB_LOCAL, PL_PUB_REMOTE, PL_PRIV_REMOTE

- **progressDescription**
  public short progressDescription
Specifies the progress description in a Progress Indicator Information Element from the PRI network. Possible values are PD_CALL_OFF_ISDN, PD_DEST_NOT_ISDN, PD_ORIG_NOT_ISDN, PD_CALL_ON_ISDN, PD_INBAND
Class com.lucent.jtapi.tsapi.OriginalCallInfo

```java
java.lang.Object
  +----com.lucent.jtapi.tsapi.ASN1
    +----com.lucent.jtapi.tsapi.ASNSequence
      +----com.lucent.jtapi.tsapi.LucentPrivateData
        +----com.lucent.jtapi.tsapi.OriginalCallInfo
```

public final class OriginalCallInfo
extends LucentPrivateData

Original Call Information is made available in conjunction with the consult() service. It is provided in event reports to observers of the consulted party and contains information about the original call.

Variable Index

- OR_CONFERENCED
- ORConsultaTION
- OR_NEW_CALL
- OR_TRANSFERRED

Method Index

- getCalledDevice()
  Get the original called device for this call.
- getCallingDevice()
  Get the original calling device for this call.
- getLookaheadInfo()
  Get the original lookahead information for this call.
- getReason()
  Get the reason code for this OriginalCallInfo.
- getTrunk()
  Get the original trunk device for this call.
- getUserEnteredCode()
Get the original collected digits for this call.

- getUserToUserInfo()
  Get the original user-to-user information for this call.

**Variables**

- **OR_CONSULTATION**
  public static final short OR_CONSULTATION

- **OR_CONFERENCED**
  public static final short OR_CONFERENCED

- **OR_TRANSFERRED**
  public static final short OR_TRANSFERRED

- **OR_NEW_CALL**
  public static final short OR_NEW_CALL

**Methods**

- **getReason**
  public short getReason()

  Get the reason code for this OriginalCallInfo. Possible values are OR_CONSULTATION, OR_CONFERENCED, OR_TRANSFERRED, and OR_NEW_CALL.

- **getCallingDevice**
  public Address getCallingDevice()

  Get the original calling device for this call.

- **getCalledDevice**
  public Address getCalledDevice()

  Get the original called device for this call.

- **getTrunk**
  public CallCenterTrunk getTrunk()
Get the original trunk device for this call.

- getUserToUserInfo
  
  public UserToUserInfo getUserToUserInfo()
  
  Get the original user–to–user information for this call.

- getLookaheadInfo
  
  public LookaheadInfo getLookaheadInfo()
  
  Get the original lookahead information for this call.

- getUserEnteredCode
  
  public UserEnteredCode getUserEnteredCode()
  
  Get the original collected digits for this call.
Class com.lucent.jtapi.tsapi.TrunkGroupInfo

public final class TrunkGroupInfo
extends LucentPrivateData

Provides information on trunk group usage.

Variable Index

- **idleTrunks**
  - The number of idle trunks.

- **usedTrunks**
  - The number of in−use trunks.

Variables

- **idleTrunks**
  
  public int idleTrunks

  The number of idle trunks.

- **usedTrunks**
  
  public int usedTrunks

  The number of in−use trunks.
Class *com.lucent.jtapi.tsapi.UserEnteredCode*

```
java.lang.Object
  +−−−−com.lucent.jtapi.tsapi.ASN1
  |  +−−−−com.lucent.jtapi.tsapi.ASNSequence
  |  |  +−−−−com.lucent.jtapi.tsapi.LucentPrivateData
  |  |  +−−−−com.lucent.jtapi.tsapi.UserEnteredCode
```

**public final class** **UserEnteredCode**

**extends** LucentPrivateData

Contains the code/digits that may have been entered by the caller through the G3 call prompting feature or the collected digits feature.

The following are necessary steps for setting up VDNs, simple vector steps and CallObservers in order for a client application to receive UECs from the switch.

1. Administer a VDN and a vector on the G3 switch with collect digits step and route command to a second VDN. See Call Scenario 1 and 2 below.

   The purpose of this VDN is to collect UEC, but it will not report the UEC to the PBX driver, even if the VDN is observed. The route command must redirect the call to a second VDN. The first VDN doesn’t have to be observed by any client application.

2. Administer a second VDN and vector to receive the redirected call from the first VDN.

   The purpose of this second VDN is to report the UEC to the PBX driver. Thus a CallObserver must be placed on the second VDN. This VDN should redirect the call to its destination. The destination can be a station extension, an ACD split, or another VDN.

   If the destination is a station extension and there is a CallObserver on that Address, call events for that observer will contain the UEC collected by the first VDN.

   If the destination is an ACD split and there is a CallObserver on an agent station
in the split, call events for that observer will contain the UEC collected by the first VDN.

If the destination is a VDN, UEC is NOT delivered to observers of that VDN.

If multiple UECs are collected by multiple VDNs in call processing, only the most recently collected UEC is reported.

Limitations

1. An observed VDN only reports the UEC it receives (UEC collected in a previous VDN). It will not report UEC it collects or UEC collected after the call is redirected from the VDN.

2. A CallObserver on a station receives only the UEC that is received by the VDN that redirects the call to the station, provided that the VDN is observed (see Call Scenario 2).

Call Scenario 1:

VDN 24101 is mapped to vector 1 and vector 1 has the following steps:

1. collect 16 digits after announcement extension 1000
2. route to 24102
3. stop

VDN 24102 is mapped to vector 2 and vector 2 has the following steps:

1. route to 24103
2. stop

where 24103 is a station extension.

When a call arrives on VDN 24101, the caller will hear the announcement and the switch will wait for the caller to enter 16 digits. After the 16 digits are collected in time (if the collect digits step is timed out, next step is executed), the call is routed to VDN 24102. The VDN 24102 routes the call to station 24103.

A CallObserver on VDN 24101 will NOT receive UEC.

If there is a CallObserver on VDN 24102, the 16 digits collected by VDN 24101 will be reported to that observer. VDN 24101 observing is not required for VDN 24102 to receive UEC collected by VDN 24101.

If there are CallObservers on VDN 24102 and station 24103, the 16 digits collected by VDN 24101 will be reported to those observers.
Whether the station 24103 is observed or not, the 16 digits will NOT be reported to the VDN 24102 observer when call is delivered to station 24103.

Call Scenario 2:

VN 24201 is mapped to vector 11 and vector 11 has the following steps:
1. collect 10 digits after announcement extension 2000
2. route to 24202
3. stop

VDN 24202 is mapped to vector 12 and vector 12 has the following steps:
1. collect 16 digits after announcement extension 3000
2. route to 24203
3. stop

VDN 24203 is mapped to vector 13 and vector 13 has the following steps:
1. queue to main split 2 priority m
2. stop

where split 2 is a vector controlled ACD split that has agent extensions 24301, 24302, 24303.

When a call arrives on VDN 24201, the caller will hear an announcement and the switch will wait for the caller to enter 10 digits. After the 10 digits are collected in time, the call is routed to VDN 24202. When the call arrives on VDN 24202, the caller will hear an announcement and the switch will wait for the caller to enter 16 digits. After the 16 digits are collected in time, the call is routed to VDN 24203. The VDN 24203 queues the call to ACD Split 2. If the agent at station 24301 is available, the call is sent to station 24301.

A CallObserver on VDN 24201 will NOT receive UEC.

If there is a CallObserver on VDN 24102, the 10 digits collected by VDN 24201 will be reported to that observer.

If there is a CallObserver on VDN 24203, the 16 digits collected by VDN 24202 will be reported to that observer. However, the 10 digits collected by VDN 24201 will NOT be reported to that observer. An observer receives only the most recent UEC.

If VDN 24202 and VDN 24203 and station 24301 are all observed, only the 16 digits collected by VDN 24202 will be reported to the station 24301 observer. A station observer will receive the UEC that is received by the VDN that redirects calls to the station.
NOTE: In order to receive the UEC at a station observer, the VDN that receives the UEC and redirects calls to the station must be observed. For example, if VDN 24203 is NOT observed by any client, an observer on station 24301 will NOT receive the 16 digits collected by VDN 24202.

Variable Index

- **UE_ANY**
- **UE_CALL_PROMPTER**
- **UE_COLLECT**
- **UE_DATA_BASE_PROVIDED**
- **UE_ENTERED**
- **UE_LOGIN_DIGITS**
- **UE_TONE_DETECTOR**

Method Index

- **getCollectVDN()**
  Returns the ACDManagerAddress of the VDN which collected the digits
- **getDigits()**
  Returns the collected digits
- **getIndicator()**
  Returns UE_COLLECT or UE_ENTERED
- **getType()**
  Returns the type of digits collected

Variables

- **UE_ANY**
  public static final short UE_ANY

- **UE_LOGIN_DIGITS**
  public static final short UE_LOGIN_DIGITS

- **UE_CALL_PROMPTER**
  public static final short UE_CALL_PROMPTER

- **UE_DATA_BASE_PROVIDED**
  public static final short UE_DATA_BASE_PROVIDED

- **UE_TONE_DETECTOR**
public static final short UE_TONE_DETECTOR

- **UE_COLLECT**

public static final short UE_COLLECT

- **UE_ENTERED**

public static final short UE_ENTERED

**Methods**

- **getType**

  public short getType()

  Returns the type of digits collected

- **getIndicator**

  public short getIndicator()

  Returns UE_COLLECT or UE_ENTERED

- **getDigits**

  public String getDigits()

  Returns the collected digits

- **getCollectVDN**

  public ACDManagerAddress getCollectVDN()

  Returns the ACDManagerAddress of the VDN which collected the digits
public final class UserToUserInfo extends LucentPrivateData

User-to-user information is an ISDN feature which allows end-to-end transmission of application data during call setup/teardown. This information may be a customer number, credit card number, alphanumeric digits, or a binary string. It is propagated with the call whether the call is made to a destination on the local switch or to a destination on a remote switch over PRI trunks. The switch sends the UUI in the ISDN SETUP message over the PRI trunk to establish the call. The local and the remote switch include the UUI in the alerting, connected, disconnected and route request events.

Constructor Index

- UserToUserInfo(byte[])
  - construct a UserToUserInfo object from a byte array
- UserToUserInfo(String)
  - construct a UserToUserInfo object from an ASCII string

Method Index

- getBytes()
  - return user-to-user info as a (binary) byte array
- getString()
  - return user-to-user info as an ASCII string
- isAscii()
  - query whether sender encoded UUI as ASCII or binary
Constructors

- **UserToUserInfo**
  
  ```java
  public UserToUserInfo(String _data)
  
  construct a UserToUserInfo object from an ASCII string
  ```

- **UserToUserInfo**
  
  ```java
  public UserToUserInfo(byte _data[])
  
  construct a UserToUserInfo object from a byte array
  ```

Methods

- **getString**
  
  ```java
  public String getString()
  
  return user-to-user info as an ASCII string
  ```

- **getBytes**
  
  ```java
  public byte[] getBytes()
  
  return user-to-user info as a (binary) byte array
  ```

- **isAscii**
  
  ```java
  public boolean isAscii()
  
  query whether sender encoded UUI as ASCII or binary
  ```
Using Telephony Services
Private Data Extensions to
JTAPI

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  Converting JTAPI Objects to TSAPI Constructs 4-4
Using Telephony Services Private Data Extensions to JTAPI

NOTE:
This chapter describes non-standard additions to JTAPI. This package is available only from the PassageWay Telephony Services implementation of JTAPI and is not available from any other implementation of JTAPI.

This chapter contains the extensions that support Telephony Services implementation of JTAPI for the private data mechanism for non-DEFINITY switches and their associated drivers.

Who Should Be Using These Extensions?
An independent switch vendor who is using the JTAPI private data programming environment to develop a private data package for non-DEFINITY switches, or an application programmer who is using or interpreting private data in a raw form, without an intermediate private data package. (An example of an intermediate private data package that allows programmers to access private data via Java interfaces rather than through raw private data bytes is contained in Chapter 3, "Using Telephony Services DEFINITY-Specific Extensions.") It is assumed that this individual has a familiarity with the Java programming language, JTAPI, Lucent Technologies Telephony Services Application Programmer's Interface (TSAPI) and its private data mechanism.
NOTE:
If you are an application programmer who is using JTAPI to develop applications for any switch for which there is a PassageWay Telephony Services driver, ignore this chapter and refer to Chapter 1, "Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch." If you want additional TSAPI-specific information about the JTAPI exceptions that are not accessible through standard JTAPI, refer to Chapter 2, "Using Telephony Services Extensions to JTAPI Exceptions."

NOTE:
If you are an application programmer who is using JTAPI to develop applications for the DEFINITY switch, ignore this chapter and refer to Chapter 1, "Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch." If you want to take advantage of DEFINITY-specific features that are not accessible through standard JTAPI, refer to Chapter 3, "Telephony Services DEFINITY-Specific Extensions to JTAPI."

How Should the Extensions be Used?

The private data extensions to JTAPI assist independent switch vendors in the creation of a private data package for non-DEFINITY switches, or allow application programmers to use or interpret private data when they are supplied with private data in its raw form (i.e., without an intermediate private data package.)

The following sections describe guidelines for using or interpreting private data when it is supplied in its raw form.

Initialization of Private Data

In order to use or interpret private data from a particular vendor, the application must specify the vendor name and the version of the private data that is to be used. The particular format of the name and version strings used is supplied by the vendor.

The specification of the vendor name and the version of the private data must be done after the application creates a JtapiPeer but before it creates the Provider. The ITsapiPeer.addVendor() method allows vendor names and versions to be specified to the application. For example, if a JtapiPeer has been created (called peer) which is an instance of ITsapiPeer, then:

```
((ITsapiPeer)peer).addVendor("Brand X", "1-3")
```

indicates that the application knows how to interpret private data from vendor “Brand X” as well as versions 1, 2, and 3 of that private data.

If the application supports private data produced by multiple vendors, the application may call addVendor() multiple times before receiving the Provider.
When a String containing the vendor name and version is passed to JtapiPeer.getProvider(), a particular Provider will be connected to a single vendor delivering one particular version of private data. The application determines the connected vendor and version by executing the ITSapiProvider.getVendor() and ITSapiProvider.getVendorVersion() methods. Once a particular vendor and version is associated with a particular Provider, this association will not change for the life of the Provider. If the application wants a different Provider, the application must call JtapiPeer.addVendor() again.

Using TsapiPrivate as a JTAPI Private Data Object

Where JTAPI specifies that a private data Object is to be passed in as an argument to a method, this implementation of JTAPI requires the Object to be an instance of TsapiPrivate. Where JTAPI specifies that a private data Object is to be returned from a method, in this implementation, the returned Object is always an instance of TsapiPrivate.

When constructing a TsapiPrivate object to be used with the sendPrivateData() methods, waitForResponse must be set so that the appropriate action is taken.

- A value of true indicates that the implementation should block sendPrivateData() until a response is received from the switch. This response will be passed back to the application as the return code from sendPrivateData(). This is equivalent to the TSAPI request cstaEscapeService().

- A value of false indicates that the implementation should return immediately (with a null) from sendPrivateData(), without waiting for a response from the switch. This is equivalent to the TSAPI request cstaSendPrivateEvent().

- When a TsapiPrivate object is passed as an argument to a setPrivateData() method, the waitForResponse flag is ignored.

Converting TSAPI Constructs to JTAPI Objects

Since private data, by its nature, cannot be interpreted by the implementation, raw TSAPI constructs may be exposed. The ITSapiProviderPrivate interface defines methods that allow raw TSAPI constructs to be converted into their JTAPI equivalents. The following table lists the raw TSAPI constructs that may be converted into their JTAPI equivalents. It lists the TSAPI constructs, the Java version (the Java class) of the TSAPI constructs, the JTAPI objects to which they are converted, and the method to be used for the conversion.
NOTE:
TSAPI constructs such as DeviceID may be converted to JTAPI objects via standard JTAPI methods such as Provider.getAddress(String) and Provider.getTerminal(String).

Converting JTAPI Objects to TSAPI Constructs

Just as receiving TSAPI private data may expose raw TSAPI constructs, sending TSAPI private data may require raw TSAPI constructs as well. The ITsapiConnIDPrivate and ITsapiRoutePrivate interfaces have been defined to retrieve TSAPI constructs from JTAPI objects.

The following table lists the JTAPI objects that may be converted into their equivalent TSAPI constructs. It lists the JTAPI objects, the TSAPI constructs to which they are converted, the Java version (the Java class) of the TSAPI constructs, and the method to be used for the conversion.
package com.lucent.jtapi.tsapi

Interface Index

- ITsapiConnIDPrivate
- ITsapiPeer
- ITsapiProvider
- ITsapiProviderPrivate
- ITsapiRoutePrivate

Class Index

- ConnectionID
- ExtendedDeviceID
- TsapiPrivate
Interface com.lucent.jtapi.tsapi.ITsapiConnIDPrivate

public interface ITsapiConnIDPrivate

ITsapiConnIDPrivate lets you retrieve TSAPI information associated with a JTAPI Connection or TerminalConnection.

See Also:
   ConnectionID

Method Index

- getTsapiConnectionID()
  Retrieves the TSAPI ConnectionID associated with a JTAPI Connection or TerminalConnection.

Methods

- getTsapiConnectionID

   public abstract ConnectionID getTsapiConnectionID()

       Retrieves the TSAPI ConnectionID associated with a JTAPI Connection or TerminalConnection.

       See Also:
          ConnectionID

---
**Interface com.lucent.jtapi.tsapi.ITsapiPeer**

```java
public interface ITsapiPeer
extends JtapiPeer
```

ITsapiPeer extends JtapiPeer to allow applications a mechanism to specify the vendor(s) they want to negotiate private data with.

---

**Method Index**

- `addVendor(String, String)`
  This method can be used to set the vendor the application wants to exchange private data with.

**Methods**

- `addVendor`

  ```java
  public abstract void addVendor(String vendorName,
                                  String versions)
  ```

  This method can be used to set the vendor the application wants to exchange private data with. The interfaces for private data are in `javax.telephony.privatedata`.

  This method should be invoked before the application invokes `getProvider()`.

  To set multiple vendors an application must invoke this method multiple times.
Interface com.lucent.jtapi.tsapi.ITsapiProvider

public interface ITsapiProvider extends Provider, CallCenterProvider

ITsapiProvider adds methods to obtain vendor-specific version information.

See Also:
    addVendor

Method Index

- getVendor()
  Returns the private data vendor name.
- getVendorVersion()
  Returns the negotiated vendor private data version.

Methods

- getVendor
  public abstract String getVendor()
  Returns the private data vendor name.

- getVendorVersion
  public abstract byte[] getVendorVersion()
  Returns the negotiated vendor private data version.
Interface com.lucent.jtapi.tsapi.ITsapiProviderPrivate

public interface ITsapiProviderPrivate

ITsapiProviderPrivate lets you retrieve or create JTAPI objects from TSAPI constructs.

See Also:
  ConnectionID, ExtendedDeviceID

Method Index

- **getAddress** (ExtendedDeviceID)
  Returns a JTAPI Address associated with a TSAPI Extended Device ID.

- **getCall** (int)
  Returns a JTAPI Call associated with a TSAPI Call ID.

- **getConnection** (ConnectionID, Address)
  Returns a JTAPI Connection associated with a TSAPI Connection ID and the specified JTAPI Address.

- **getTerminal** (ExtendedDeviceID)
  Returns a JTAPI Terminal associated with a TSAPI Extended Device ID.

- **getTerminalConnection** (ConnectionID, Terminal)
  Returns a JTAPI TerminalConnection associated with a TSAPI Connection ID and the specified JTAPI Terminal.

Methods

- **getCall**

  public abstract Call getCall(int callID)

  Returns a JTAPI Call associated with a TSAPI Call ID.

  **Parameters:**
  callID – The Call ID.

- **getAddress**

  public abstract Address getAddress(ExtendedDeviceID deviceID)

  Returns a JTAPI Address associated with a TSAPI Extended Device ID.
**Parameters:**
deviceID – The Extended Device ID.

**See Also:**
ExtendedDeviceID

---

**getTerminal**

public abstract Terminal getTerminal(ExtendedDeviceID deviceID)

Returns a J TAPI Terminal associated with a TSAPI Extended Device ID.

**Parameters:**
deviceID – The Extended Device ID.

**See Also:**
ExtendedDeviceID

---

** getConnection**

public abstract Connection getConnection(ConnectionID connID, Address address)

Returns a J TAPI Connection associated with a TSAPI Connection ID and the specified J TAPI Address.

**Parameters:**
connID – The Connection ID.
address – The Address to associate with the Connection to be created.

**See Also:**
ConnectionID

---

**getTerminalConnection**

public abstract TerminalConnection getTerminalConnection(ConnectionID connID, Terminal terminal)

Returns a J TAPI TerminalConnection associated with a TSAPI Connection ID and the specified J TAPI Terminal.

**Parameters:**
connID – The Connection ID.
terminal – The Terminal to associate with the TerminalConnection to be created.

**See Also:**
ConnectionID
Interface com.lucent.jtapi.tsapi.ITsapiRoutePrivate

public interface ITsapiRoutePrivate

ITsapiRoutePrivate lets you retrieve TSAPI information associated with a JTAPI Route Session.

Method Index

- **getRouteCrossRefID()**
  Retrieves the TSAPI RouteCrossReferenceID associated with a JTAPI Route Session.

- **getRouteRegisterID()**
  Retrieves the TSAPI RouteRegisterID with a JTAPI Route Session.

Methods

- **getRouteRegisterID**

  public abstract int getRouteRegisterID()

  Retrieves the TSAPI RouteRegisterID with a JTAPI Route Session.

- **getRouteCrossRefID**

  public abstract int getRouteCrossRefID()

  Retrieves the TSAPI RouteCrossReferenceID associated with a JTAPI Route Session.
Class com.lucent.jtapi.tsapi.ConnectionID

java.lang.Object
  +----com.lucent.jtapi.tsapi.ASN1
  |    +----com.lucent.jtapi.tsapi.ASNSequence
  |         +----com.lucent.jtapi.tsapi.ConnectionID

public final class ConnectionID
extends ASNSequence

Variable Index

- DYNAMIC_ID
- STATIC_ID

Method Index

- equals(Object)
- hashCode()
- toString()

Variables

- STATIC_ID
  public static final short STATIC_ID

- DYNAMIC_ID
  public static final short DYNAMIC_ID
Methods

- **hashCode**
  
  public int hashCode()
  
  **Overrides:**
  
  hashCode in class Object

- **equals**
  
  public boolean equals(Object anObject)
  
  **Overrides:**
  
  equals in class Object

- **toString**
  
  public String toString()
  
  **Overrides:**
  
  toString in class Object
Class com.lucent.jtapi.tsapi.ExtendedDeviceID

java.lang.Object
    | +----com.lucent.jtapi.tsapi.ASN1
    |    +----com.lucent.jtapi.tsapi.ASNSequence
    |         +----com.lucent.jtapi.tsapi.ExtendedDeviceID

public final class ExtendedDeviceID
extends ASNSequence

A TSAPI Extended Device ID. This class should be used for interpretation of TSAPI private data. Once an Extended Device ID has been constructed from TSAPI private data, a JTAPI Address or Terminal object should be created using the appropriate method in ITsapiProviderPrivate.

See Also: ITsapiProviderPrivate

Variable Index

- **DEVICE_IDENTIFIER**
  Device ID Type.
- **EXPPLICIT_PRIVATE_ABBREVIATED**
  Device ID Type.
- **EXPPLICIT_PRIVATE_LEVEL1_REGIONAL_NUMBER**
  Device ID Type.
- **EXPPLICIT_PRIVATE_LEVEL2_REGIONAL_NUMBER**
  Device ID Type.
- **EXPPLICIT_PRIVATE_LEVEL3_REGIONAL_NUMBER**
  Device ID Type.
- **EXPPLICIT_PRIVATE_LOCAL_NUMBER**
  Device ID Type.
- **EXPPLICIT_PRIVATE_PTN_SPECIFIC_NUMBER**
  Device ID Type.
- **EXPPLICIT_PRIVATE_UNKNOWN**
  Device ID Type.
- **EXPLICIT_PUBLIC_ABBREVIATED**
  Device ID Type.

- **EXPLICIT_PUBLIC_INTERNATIONAL**
  Device ID Type.

- **EXPLICIT_PUBLIC_NATIONAL**
  Device ID Type.

- **EXPLICIT_PUBLIC_NETWORK_SPECIFIC**
  Device ID Type.

- **EXPLICIT_PUBLIC_SUBSCRIBER**
  Device ID Type.

- **EXPLICIT_PUBLIC_UNKNOWN**
  Device ID Type.

- **ID_NOT_KNOWN**
  Device ID Status of ID_NOT_KNOWN indicates the Device ID is not known.

- **ID_NOT_REQUIRED**
  Device ID Status of ID_NOT_REQUIRED indicates the Device ID is not required.

- **ID_PROVIDED**
  Device ID Status of ID_PROVIDED indicates the Device ID is valid.

- **IMPLICIT_PRIVATE**
  Device ID Type.

- **IMPLICIT_PUBLIC**
  Device ID Type.

- **OTHER_PLAN**
  Device ID Type.

- **TRUNK_GROUP_IDENTIFIER**
  Device ID Type.

- **TRUNK_IDENTIFIER**
  Device ID Type.

**Constructor Index**

- **ExtendedDeviceID**(String, short, short)
  Construct an ExtendedDeviceID.

**Variables**

- **DEVICE_IDENTIFIER**
  public static final short DEVICE_IDENTIFIER
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **IMPLICIT_PUBLIC**
  public static final short IMPLICIT_PUBLIC
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED
**EXPLICIT_PUBLIC_UNKNOWN**

Public static final short EXPLICIT_PUBLIC_UNKNOWN

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**EXPLICIT_PUBLIC_INTERNATIONAL**

Public static final short EXPLICIT_PUBLIC_INTERNATIONAL

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**EXPLICIT_PUBLIC_NATIONAL**

Public static final short EXPLICIT_PUBLIC_NATIONAL

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**EXPLICIT_PUBLIC_NETWORK_SPECIFIC**

Public static final short EXPLICIT_PUBLIC_NETWORK_SPECIFIC

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**EXPLICIT_PUBLIC_SUBSCRIBER**

Public static final short EXPLICIT_PUBLIC_SUBSCRIBER

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**EXPLICIT_PUBLIC_ABBREVIATED**

Public static final short EXPLICIT_PUBLIC_ABBREVIATED

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**IMPLICIT_PRIVATE**

Public static final short IMPLICIT_PRIVATE

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

**EXPLICIT_PRIVATE_UNKNOWN**

Public static final short EXPLICIT_PRIVATE_UNKNOWN

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED
- **EXPLICIT_PRIVATE_LEVEL3_REGIONAL_NUMBER**
  
  public static final short EXPLICIT_PRIVATE_LEVEL3_REGIONAL_NUMBER
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **EXPLICIT_PRIVATE_LEVEL2_REGIONAL_NUMBER**
  
  public static final short EXPLICIT_PRIVATE_LEVEL2_REGIONAL_NUMBER
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **EXPLICIT_PRIVATE_LEVEL1_REGIONAL_NUMBER**
  
  public static final short EXPLICIT_PRIVATE_LEVEL1_REGIONAL_NUMBER
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **EXPLICIT_PRIVATE_PTN_SPECIFIC_NUMBER**
  
  public static final short EXPLICIT_PRIVATE_PTN_SPECIFIC_NUMBER
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **EXPLICIT_PRIVATE_LOCAL_NUMBER**
  
  public static final short EXPLICIT_PRIVATE_LOCAL_NUMBER
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **EXPLICIT_PRIVATE_ABBREVIATED**
  
  public static final short EXPLICIT_PRIVATE_ABBREVIATED
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **OTHER_PLAN**
  
  public static final short OTHER_PLAN
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

- **TRUNK_IDENTIFIER**
  
  public static final short TRUNK_IDENTIFIER
  
  Device ID Type. Ignored if Device ID Status is not ID_PROVIDED
public static final short TRUNK_GROUP_IDENTIFIER

Device ID Type. Ignored if Device ID Status is not ID_PROVIDED

public static final short ID_PROVIDED

Device ID Status of ID_PROVIDED indicates the Device ID is valid

public static final short ID_NOT_KNOWN

Device ID Status of ID_NOT_KNOWN indicates the Device ID is not known. The Device ID and Device Type fields are ignored.

public static final short ID_NOT_REQUIRED

Device ID Status of ID_NOT_REQUIRED indicates the Device ID is not required. The Device ID and Device Type fields are ignored.

Constructors

public ExtendedDeviceID(String _deviceID,
  short _deviceIDType,
  short _deviceIDStatus)

Construct an ExtendedDeviceID.

Parameters:
  _deviceID – The Device ID.
  _deviceIDType – The Device ID Type.
  _deviceIDStatus – The status of the Device ID (ID_PROVIDED,
  ID_NOT_KNOWN, ID_NOT_REQUIRED).
public final class **TsapiPrivate**
eextends Object

The TsapiPrivate object is used to pass vendor-specific information between an application and the service provider, via the JTAPI private data interfaces. Where JTAPI specifies that a private data Object is to be passed in as an argument to a method, this implementation requires the Object to be an instance of TsapiPrivate. Where JTAPI specifies that a private data Object is to be returned from a method, in this implementation the returned Object is always an instance of TsapiPrivate.

An application must first use the ITsapiPeer.addVendor() method so that when a provider is created it may negotiate the version of private data to be used.

See Also:
- addVendor

### Variable Index
- data
- tsType
- vendor

### Constructor Index
- **TsapiPrivate**(byte[])
  - Construct a TSAPI private data object.
- **TsapiPrivate**(byte[], boolean)
  - Construct a TSAPI private data object.
**Method Index**

- `getData()`
  
  Return the byte array containing the raw private data.

**Variables**

- `vendor`
  
  `public String vendor`

- `data`
  
  `public byte data[]`

- `tsType`
  
  `public int tsType`

**Constructors**

- `TsapiPrivate`
  
  `public TsapiPrivate(byte _data[])`
  
  Construct a TSAPI private data object. This version of the constructor should be used when this object will be passed in a `setPrivateData()` method OR when `sendPrivateData()` can return immediately (with a null) without waiting for a response from the switch (this is equivalent to the TSAPI request `cstaSendPrivateEvent()`).

- `TsapiPrivate`
  
  `public TsapiPrivate(byte _data[], boolean waitForResponse)`
  
  Construct a TSAPI private data object. If this object is to be used with the `sendPrivateData()` methods, `waitForResponse` must be set so that the appropriate action is taken. `true` indicates that the implementation should block in `sendPrivateData()` until a response is received from the switch. This response will be passed back to the application as the return code from `sendPrivateData()`. This is equivalent to the TSAPI request `cstaEscapeService()`. `false` indicates that the implementation should return immediately (with a null) from `sendPrivateData()` without waiting for a response from the switch. This is equivalent to the TSAPI request `cstaSendPrivateEvent()`. When a TSAPI private data object is passed as an argument to a `setPrivateData()` method, the `waitForResponse` flag is ignored.
Methods

- **getData**

  ```java
def public byte[] getData()
  
  Return the byte array containing the raw private data.
  ```
Telephony Services
Implementation of JTAPI for
Private Data

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</table>
This appendix describes the level of support the PassageWay Telephony Services implementation of JTAPI provides for the private data mechanism for non-DEFINITY switches and their associated drivers. It contains the mappings of Telephony Services Application Programming Interface (TSAPI) requests with the JTAPI interfaces and associated methods, along with the mappings between TSAPI and typically occurring JTAPI events.

It is suggested reading for an independent switch vendor who is using the JTAPI private data programming environment to develop a private data package for non-DEFINITY switches, or an application programmer who is using or interpreting private data in a raw form, without an intermediate private data package. (An example of an intermediate private data package that allows programmers to access private data via Java interfaces rather than through raw private data bytes is contained in Chapter 3, “Using Telephony Services DEFINITY-Specific Extensions.”)

**NOTE:** If you are an application programmer who is using JTAPI to develop applications for any switch for which there is a PassageWay Telephony Services driver, ignore this appendix and refer to Chapter 1, “Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch.” If you want additional TSAPI-specific information about the JTAPI exceptions that are not accessible through standard JTAPI, refer to Chapter 2, “Using Telephony Services Extensions to JTAPI Exceptions.”

**NOTE:** If you are an application programmer who is using JTAPI to develop applications for the DEFINITY switch, ignore this appendix and refer to Chapter 1, “Telephony Services Implementation of JTAPI for All Switches and the DEFINITY Switch.” If you want to take advantage of DEFINITY-specific features that are not accessible through standard JTAPI, refer to Chapter 3, “Telephony Services DEFINITY-Specific Extensions to JTAPI.”
Telephony Services Implementation of JTAPI for Private Data

JTAPI’s private data mechanism is defined in the java.telephony.privatedata package.

The Lucent Technologies Telephony Services Application Programmer’s Interface (TSAPI) implementation adds the ITsapiPeer and ITsapiProvider interfaces to allow an application to set one or more vendors with which it might want to negotiate private data. Applications must invoke the addVendor method on the ITsapiPeer interface before invoking the getProvider method on the interface.

The private data object used is defined as TsapiPrivate. It consists of a vendor name, a byte array of private data, and a tsType value which specifies the escape service to be used.

JTAPI has a different model for private data than TSAPI. If you used private data to program to TSAPI, you have to take the following differences into account to achieve the same result with JTAPI:

- In TSAPI, every request has private data parameters.

  In JTAPI, the associated methods do not have private data parameters. An application must set private data using the setPrivateData method on an object prior to invoking a JTAPI method on that object. The setPrivateData method is defined in the PrivateData interface in the java.telephony.privatedata package. For example, if the desired effect is to send a cstaMakeCall with a private parameter to the switch, the way to achieve that in JTAPI is to first invoke setPrivateData on a Call object and then invoke connect on the Call object.

- In TSAPI, if private data accompanies a confirmation, then it is returned via the acsGetEventBlock or acsGetEventPoll function.

  In JTAPI, there are no confirmation events. An application can get the private data from a confirmation event by using the getPrivateData method on an object after returning from invocation of a method in the object. The getPrivateData method is defined in the PrivateData interface in the java.telephony.privatedata package. For example, if the desired effect is to get the private data from the confirmation, CSTAMakeCallConfEvent; the way to achieve that in JTAPI is to invoke getPrivateData on the Call object after invoking connect on a Call object.
- In TSAPI, if private data accompanies an event, then it is copied via the acsGetEventBlock or acsGetEventPoll function.

In JTAPI, there are PrivateEvents which are delivered to the observers. The PrivateEvent interface is defined in the java.telephony.privatedata.events package. For example, if the desired effect is to get private data that is associated with cstaDeliveredEvent, the way to achieve that in JTAPI is to extract it from the PrivateEvent that is delivered in an event array to a CallObserver.

**NOTE:**
A cstaDeliveredEvent sets the connection state to ALERTING. If this is a state change, a ConnAlertingEv and PrivateEvent will be in the event array delivered to the CallObserver. If the state was already ALERTING, the PrivateEvent will be in the event array by itself.

Table A-3 lists TSAPI events and corresponding JTAPI events that might be in the event array in which the PrivateEvent is delivered.
# TSAPI Requests with Associated JTAPI Interfaces and Methods

Table A-1 lists the TSAPI requests and associated JTAPI interfaces and methods.

## Table A-1. TSAPI Requests with Associated JTAPI Interfaces and Methods

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<thead>
<tr>
<th>TSAPI Requests</th>
<th>JTAPI Interfaces</th>
<th>JTAPI Methods</th>
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<td>Call</td>
<td>connect</td>
</tr>
<tr>
<td>cstaClearConnection</td>
<td>Connection</td>
<td>disconnect</td>
</tr>
<tr>
<td>acsEnumServerNames</td>
<td>JtapiPeer</td>
<td>getServices</td>
</tr>
<tr>
<td>acsOpenStream</td>
<td>JtapiPeer</td>
<td>getProvider</td>
</tr>
<tr>
<td>acsCloseStream</td>
<td>Provider</td>
<td>shutdown</td>
</tr>
<tr>
<td>cstaAnswerCall</td>
<td>TerminalConnection</td>
<td>answer</td>
</tr>
<tr>
<td>cstaSetAgentState</td>
<td>AgentTerminal</td>
<td>addAgent</td>
</tr>
<tr>
<td></td>
<td>Agent</td>
<td>setState</td>
</tr>
<tr>
<td>cstaQueryAgentState</td>
<td>Agent</td>
<td>getAgentState</td>
</tr>
<tr>
<td>cstaMakePredictiveCall</td>
<td>CallCenterCall</td>
<td>connectPredictive</td>
</tr>
<tr>
<td>cstaRouteRegisterReq</td>
<td>RouteAddress</td>
<td>registerRouteCallback</td>
</tr>
<tr>
<td>cstaRouteRegisterCancel</td>
<td>RouteAddress</td>
<td>cancelRouteCallback</td>
</tr>
<tr>
<td>cstaRouteSelectInv</td>
<td>RouteSession</td>
<td>selectRoute</td>
</tr>
<tr>
<td>cstaRouteEndInv</td>
<td>RouteSession</td>
<td>endRoute</td>
</tr>
<tr>
<td>cstaSetForwarding</td>
<td>CallControlAddress</td>
<td>setForwarding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cancelForwarding</td>
</tr>
<tr>
<td>cstaQueryForwarding</td>
<td>CallControlAddress</td>
<td>getForwarding</td>
</tr>
<tr>
<td>cstaQueryDoNotDisturb</td>
<td>CallControlAddress</td>
<td>getDoNotDisturb</td>
</tr>
<tr>
<td>cstaSetDoNotDisturb</td>
<td>CallControlAddress</td>
<td>setDoNotDisturb</td>
</tr>
<tr>
<td>cstaQueryMsgWaitingInd</td>
<td>CallControlAddress</td>
<td>getMessageWaiting</td>
</tr>
<tr>
<td>cstaSetMsgWaitingInd</td>
<td>CallControlAddress</td>
<td>setMessageWaiting</td>
</tr>
<tr>
<td>cstaClearCall</td>
<td>CallControlCall</td>
<td>drop</td>
</tr>
<tr>
<td>cstaConferenceCall</td>
<td>CallControlCall</td>
<td>conference</td>
</tr>
<tr>
<td>cstaTransferCall</td>
<td>CallControlCall</td>
<td>transfer</td>
</tr>
<tr>
<td>cstaConsultationCall</td>
<td>CallControlCall</td>
<td>consult</td>
</tr>
<tr>
<td>cstaDeflectCall</td>
<td>CallControlConnection</td>
<td>redirect</td>
</tr>
<tr>
<td>cstaQueryDoNotDisturb</td>
<td>CallControlTerminal</td>
<td>getDoNotDisturb</td>
</tr>
<tr>
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<td>CallControlTerminal</td>
<td>setDoNotDisturb</td>
</tr>
<tr>
<td>cstaPickupCall</td>
<td>CallControlTerminal</td>
<td>pickup</td>
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<td>cstaGroupPickupCall</td>
<td>CallControlTerminal</td>
<td>pickupFromGroup</td>
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<td>cstaHoldCall</td>
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<td>hold</td>
</tr>
<tr>
<td>cstaRetrieveCall</td>
<td>CallControlTerminalConnection</td>
<td>unhold</td>
</tr>
<tr>
<td>cstaSendPrivateEvent</td>
<td>Private Data</td>
<td>sendPrivateData</td>
</tr>
</tbody>
</table>
TSAPI Requests without Associated JTAPI Mapping

Table A-2 lists the TSAPI requests that do not have corresponding JTAPI interfaces and methods. Therefore, there is no access to the private data for these TSAPI requests.

Table A-2. TSAPI Requests Without Associated JTAPI Mapping

<table>
<thead>
<tr>
<th>TSAPI Requests</th>
<th>Call Control Services</th>
<th>Supplementary Services</th>
<th>Monitor Services</th>
<th>Escape Services</th>
<th>Maintenance Services</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>cstaAlternateCall</td>
<td>cstaQueryLastNumber</td>
<td>cstaChangeMonitorFilter</td>
<td>cstaEscapeServiceConf</td>
<td>cstaSysStatReq</td>
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<td></td>
<td>cstaCallCompletion</td>
<td>cstaQueryDeviceInfo</td>
<td>FeatureEventReport</td>
<td>CSTA_ESCAPE_SVC_REQ</td>
<td>cstaSysStatStart</td>
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<tr>
<td></td>
<td>cstaReconnectCall</td>
<td></td>
<td>CSTACallInfoEvent</td>
<td></td>
<td>cstaSysStatStop</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cstaChangeSysStatFilter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cstaSysStatReqConf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>cstaSysStatEvent</td>
</tr>
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</table>
### Mapping of Possible JTAPI Events to TSAPI Events

Table A-3 lists TSAPI events and the associated possible JTAPI events that might be in the event array in which the PrivateEvent is delivered.

**NOTE:**
A cstaDeliveredEvent sets the connection state to ALERTING. If this is a state change, a ConnAlertingEv and PrivateEvent will be in the event array delivered to the CallObserver. If the state was already ALERTING, the PrivateEvent will be in the event array by itself.

**Table A-3. Mapping of Possible JTAPI Events to TSAPI Events**

<table>
<thead>
<tr>
<th>TSAPI Events</th>
<th>Possible JTAPI Event in Array with Private Event</th>
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<tr>
<td>CSTACallClearedEvent</td>
<td>CallInvalidEv</td>
</tr>
<tr>
<td>CSTAMonitorEndedEvent</td>
<td>CallObservationEndedEv</td>
</tr>
<tr>
<td>CSTADeliveredEvent</td>
<td>ConnAlertingEv</td>
</tr>
<tr>
<td>CTAEstablishedEvent</td>
<td>ConnConnectedEv</td>
</tr>
<tr>
<td>CSTACConnectionClearedEvent</td>
<td>ConnDisconnectedEv</td>
</tr>
<tr>
<td>CSTAFailedEvent</td>
<td>ConnFailedEv</td>
</tr>
<tr>
<td>CSTDaDoNotDisturbEvent</td>
<td>CallCtlAddrDoNotDisturbEv</td>
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<tr>
<td>CSTAForwardingEvent</td>
<td>CallCtlAddrForwardEv</td>
</tr>
<tr>
<td>CSTAMessageWaitingEvent</td>
<td>CallCtlAddrMessageWaitingEv</td>
</tr>
<tr>
<td>CSTAServiceInitiatedEvent</td>
<td>CallCtlConnInitiatedEv</td>
</tr>
<tr>
<td>CSTANetworkReachedEvent</td>
<td>CallCtlConnNetworkReachedEv</td>
</tr>
<tr>
<td>CSTAQueuedEvent</td>
<td>CallCtlConnQueuedEv</td>
</tr>
<tr>
<td>CSTALoggedOffEvent</td>
<td>ACDAddrLoggedOffEv</td>
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<td>AgentTermLoggedOffEv</td>
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<td>CSTALoggedOnEvent</td>
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<td>AgentTermLoggedOnEv</td>
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<td>CSTANotReadyEvent</td>
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<tr>
<td>CSTAReadyEvent</td>
<td>ACDAddrReadyEv</td>
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<td>ACDAddrWorkNotReadyEv</td>
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<td>ACDAddrWorkReadyEv</td>
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<td>CSTARouteRequestExtEvent</td>
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<td>CSTARouteRequestedEvent</td>
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<td>CSTARouteUsedExtEvent</td>
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<tr>
<td>CSTARouteEndEvent</td>
<td>RouteEndEvent</td>
</tr>
<tr>
<td>CSTARouteRegisterAbortEvent</td>
<td>RouteCallbackEndedEvent</td>
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</tbody>
</table>
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PassageWay® Telephony Services
for Windows NT®
Java™ Telephony API (JTAPI)
Client Programmer’s Guide
Issue 1.0, October 1997

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<th>Fair</th>
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- [ ] Improve the organization
- [ ] Add more figures
- [ ] Add more examples
- [ ] Add more details
- [ ] Make it more concise
- [ ] Add more step-by-step procedures/tutorials
- [ ] Add more troubleshooting information
- [ ] Make it less technical
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