

# **Oracle® Tuxedo JCA Adapter**

Product Overview

11g Release 1 (11.1.1.1.0)

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# Oracle Tuxedo JCA Adapter Overview

This chapter contains the following sections:

- [Understanding the Oracle Tuxedo JCA Adapter](#)
- [Oracle Tuxedo JCA Adapter Supported Standards](#)
- [What's Next](#)

## Understanding the Oracle Tuxedo JCA Adapter

The Oracle Tuxedo JCA Adapter is a JCA-based resource adapter that provides bi-directional service invocation between a JCA 1.5 compliant application servers and the Oracle Tuxedo system. Oracle Tuxedo JCA Adapter supports global and local transactions conforming to JCA transaction standards. It supports connection management, transaction infestation, identity propagation, and link-level security. Link-level security uses industry standard SSL/TLS or a proprietary high performance algorithm.

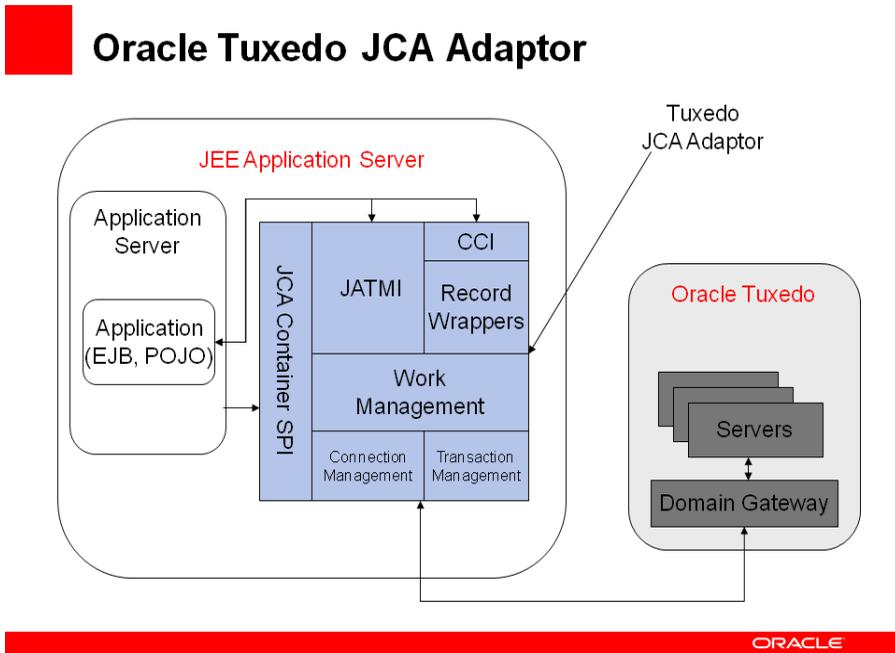
Oracle Tuxedo JCA Adapter supports synchronous and asynchronous request invocations. It supports JCA standard Common Client Interface (CCI) as well as Oracle Tuxedo standard JATMI (Java Application-To-Monitor Interface) API for use in JEE applications (EJBs, POJOs, Servlets/ JSPs, etc.), which need to access Oracle Tuxedo services. In order to access JEE application services from Oracle Tuxedo applications, standard ATMI is used. To an Oracle Tuxedo JEE, services appear as Oracle Tuxedo services.

Oracle Tuxedo JCA Adapter also creates a contract between the application server and the resource adapter using JCA standard Service Provider Interface (SPI). It allows Oracle Tuxedo JCA Adapter to be managed by (and compatible with), any JCA compliant application server.

Oracle Tuxedo JCA Adapter can be configured using a combination of the JCA standard resource adapter configuration file (`ra.xml`) and the Oracle Tuxedo specific configuration file (`dmconfig.xml`). Also, Oracle Tuxedo JCA Adapter can be deployed using native application server methods.

Figure 1 shows a graphical representation of the Oracle Tuxedo JCA Adapter architecture.

Figure 1 Oracle Tuxedo JCA Adapter Architecture



## Features

Oracle Tuxedo JCA Adapter 11g Release 1 (11.1.1.1.0.) includes the following features:

- [Bi-Directional Service Request Invocation](#)
- [Transaction Context and Identity Propagation](#)

- [Session Authentication](#)
- [Data Privacy](#)
- [Secure Socket Layer Support](#)
- [Common Client Interface for Application Development](#)
- [Java Application-To-Monitor Interface](#)

## Bi-Directional Service Request Invocation

The Oracle Tuxedo JCA Adapter allows a JEE application to access Oracle Tuxedo services using the JCA Common Client Interface (CCI) or the Java Application-To-Monitor Interface (JATMI). It also allows Oracle Tuxedo clients to access a POJO or EJB java object in an application server.

## Transaction Context and Identity Propagation

Outbound transactions (application server-to-Oracle Tuxedo) are supported for transaction types defined by the Oracle Tuxedo JCA Adapter. The following transactions are supported:

- Container managed XA Transactions
- Container managed Local Transactions
- Adapter managed Local Transactions

Oracle Tuxedo JCA Adapter allows user identity to be sent to Oracle Tuxedo along with the service request. This allows proper access control of Oracle Tuxedo services from a remote user.

## Session Authentication

Session authentication allows the Oracle Tuxedo JCA Adapter and the Oracle Tuxedo system to authenticate each other and create a trust relationship. Session authentication supports both domain password authentication and application password authentication.

## Data Privacy

Link-level encryption is supported up to 128-bit encryption strength to protect data privacy between the java application server and Oracle Tuxedo. The following encryption strength levels are supported:

- 40-bit

- 56-bit
- 128-bit

## Secure Socket Layer Support

Industrial standard Secure Socket Layer is supported for added security between Oracle Tuxedo JCA Adapter and Oracle Tuxedo. The following encryption strength levels are supported:

- 56-bit
- 112-bit
- 128-bit
- 256-bit

## Common Client Interface for Application Development

The JEE Connector Architecture Common Client Interface (CCI) is supported for Oracle Tuxedo client access. The following Oracle Tuxedo typed buffers are supported for use with CCI records:

- STRING
- CARRAY
- FML/FML32
- MBSTRING
- VIEW/VIEW32
- X\_C\_TYPE
- X\_COMMON
- X\_OCTET
- XML

For more information see, [Oracle Tuxedo 11gR1, Managing Typed Buffers in \*Programming An Oracle Tuxedo ATMI Application Using C.\*](#)

## Java Application-To-Monitor Interface

The Java Application-To-Monitor Interface (JATMI) is a Java language-based, X/open XATMI interface that provides high performance global transaction synchronization functionality supported by Oracle Tuxedo. The following Oracle Tuxedo ATMIs are supported:

- `tpcall`
- `tpacall`
- `tpacall` (with asynchronous reply)
- `tpcancel`
- `tpgetreply`
- `tpenqueue`
- `tpdequeue`

For more information, see the [Oracle Tuxedo 11gR1 Command Reference Guide](#).

## Limitations

The Oracle Tuxedo JCA Adapter *does not* support the following functionality:

- Inbound from Oracle Tuxedo request impersonation for authentication and ACL
- Inbound transactions from Oracle Tuxedo

## Oracle Tuxedo JCA Adapter Supported Standards

Oracle Tuxedo JCA Adapter 11gR1 supports the following standard(s):

- [J2EE Connector Architecture \(Specification 1.5\)](#)

## What's Next

After becoming familiar with the Oracle Tuxedo JCA Adapter Product Overview, refer to the following topics:

- Release Information
- For information regarding the current product release, refer to the [Oracle Tuxedo JCA Release Notes](#).
- Installing, Configuring, and Deploying the Oracle Tuxedo JCA Adapter.

For an explanation of how to install the product, refer to the [Oracle Tuxedo JCA Adapter Users Guide](#).

- Programming the Oracle Tuxedo JCA Adapter and Examples

For an explanation of how to program with the product, refer to the [Oracle Tuxedo JCA Adapter Programming Guide](#) and [Oracle Tuxedo JCA Adapter Reference Guide](#).