Oracle® Tuxedo

Release Notes

12*c* Release 1 (12.1.1)

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Oracle Tuxedo Release Notes, 12*c* Release 1 (12.1.1)

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Date: June 2012

Table 1 Revision History

Revision Date	Summary of Change
June 2012	GA release

This document contains release notes for the Oracle Tuxedo 12*c* Release 1 (12.1.1). It includes the following topics:

- About This Oracle Tuxedo Release
- Installation Upgrade Considerations
- Oracle Tuxedo Software Components
- Supported Platforms

About This Oracle Tuxedo Release

This topic includes the following sections:

- What's New and Improved

- Installation Upgrade Considerations
- Oracle Tuxedo Software Components

What's New and Improved

Oracle Tuxedo 12*c* Release 1 (12.1.1) includes the following new major features and enhancements:

Optimizations for Oracle Exalogic

Use of Shared Memory for Inter Process Communication

Oracle Tuxedo 12c significantly enhances performance of Tuxedo applications on Exalogic with use of shared memory queues instead of IPC Message Queues for inter process communication on the same Tuxedo node. With the use of shared memory queues, the sender and receiver processes can exchange pre-allocated messages in shared memory, thus eliminating the need to copy messages several times before message reaches its intended target and resulting in much better throughput and lower latency.

For more information, see How to Create TUXCONFIG File in Administering an Oracle Tuxedo Application at Run Time, ATMI C Function Reference, File Formats, Data Descriptions, MIBs, and System Processes Reference, and Command Reference.

Shared Applications Staging

With Oracle Tuxedo 12c, one can share application directory (APPDIR) among many compute nodes of the storage appliance on an Exalogic system, making it easier to manage application deployment.

For more information, see the configuration of `UBBCONFIG` in File Formats, Data Descriptions, MIBs, and System Processes Reference.

Read-Only Optimization for XA

Optimized Distributed Transaction processing within and across Tuxedo domains for read-only transaction, including global transaction across Tuxedo domain and WTC (WLS 12.1.2 or higher releases of WLS). One of the typical scenarios is every branch of the global transaction access the same Oracle Database instance.

In order to use this feature with WebLogic Server, minimum patch requirement for WebLogic Server must be met. This feature is not supported for CORBA applications.

For more information, see the RESOURCE and T_DOMAIN sections in File Formats, Data Descriptions, MIBs, and System Processes Reference.

Tightly Coupled Transaction Branches Crossing Domain

Common global transaction identifier (GTRID) is introduced in default to make branches within a global transaction crossing domains using common GTRID. The branches would be tightly coupled if they are running on same database (if the database allows).

For more information, see Oracle Tuxedo on Exalogic Users Guide.

Application Packaging and Deployment

Oracle Tuxedo 12c introduces a new concept of application packages. An application package is self-contained deployable unit. Application packages contain application binaries and required configuration artifacts. Application packaging and deployment feature includes in this release provide infrastructure for private cloud applications.

For more information, see Oracle Tuxedo Application Packaging and Deployment in Setting up an Oracle Tuxedo Application.

Developing New Applications using Java

With this feature, one can develop new Tuxedo services using Java programming language in order to extend existing C/C++/COBOL applications. Java services are deployed and coexist in the same container as C/C++/COBOL services, allowing one to manage and monitor applications written in different programming languages using same set of tools. Coexistence in the same container also optimizes transaction coordination across services written in different languages. Java services development includes following major features in the 12c release:

- POJO programming model
- JATMI based API
- XA transactions
- Monitoring and management - equivalent to C/C++/COBOL services

For more information, see Managing ATMI Java Server in Setting up an Oracle Tuxedo Application, and Programming an Oracle Tuxedo Application Using Java.

IBM WebSphere MQSeries Adapter Features

Following new features are added to the IBM WebSphere MQSeries Adapter:

- Reduced CPU usage, better throughput and higher scalability through multithreaded and event driven architecture of TM_MQI server
- Automatic connection failure recovery for TM_MQI and TM_MQO servers
- Support for clustered queues
- Ability to connect to remote MQSeries Manager
- Access to MQSeries message headers
- Recoverable messages in case security failure

For more information, see File Formats, Data Descriptions, MIBs, and System Processes Reference, Command Reference, and Tuxedo MQ Adapters.

Service Versioning

This feature provides a configuration-driven way to deploy different versions of Tuxedo services in an application domain or across domains without changing the existing code. By use of version, one can logically partition the existing Tuxedo applications into different virtual application domains, machines, and server groups based on current Tuxedo management hierarchy, so as to respond to several of special business access logics and on the other hand satisfy upgrade requirements in non-stop mode.

For more information, see Applying Service Version to Tuxedo Applications in Setting up an Oracle Tuxedo Application.

High Availability Configuration for Data Dependent Routing

With this feature, multiple server groups can be configured for the same data range, thus allowing incoming requests to failover to an alternate group, if primary group is not available, increasing the availability of the application. This feature can be used either within a domain or across the domains.

For more information, see ROUTING Section in File Formats, Data Descriptions, MIBs, and System Processes Reference.

Use of XPath for XML based Data Dependent Routing

With this feature, one can use XPath for much greater flexibility in specifying routing criteria if XML buffer type is used for data dependent routing.

For more information, see the configuration of `UBBCONFIG` and `TM_MIB` in File Formats, Data Descriptions, MIBs, and System Processes Reference.

Generic LDAP Authentication/Authorization Framework

Oracle Tuxedo 12c provides a flexible authentication and authorization framework that can be used to store credentials and Access Control Lists (ACLs) in LDAP or another 3rd party framework.

Generic LDAP authentication and authorization framework includes following major features:

- LDAP based authentication and authorization
- Flexible LDAP schema support
- Nested group support for authorization

For more information, see How to Enable Generic LDAP Based Security in Using Security in ATMI Applications.

Expedited Diagnostics through ECID Propagation

With this feature, an ECID (Execution Context ID) is propagated with each request within Tuxedo and across various products in Oracle stack. Propagation of ECID allows easy correlation of requests across Tuxedo domains and Oracle products, such as WebLogic Server, Database and so on, making it faster easier to diagnose application problems.

For more information, see Configuring Tuxedo for Propagating ECID in Setting up an Oracle Tuxedo Application.

Automatic Master Node and Server Group Migration

This feature enables automatic migration of master node to designated back up without any manual intervention, thus minimizing the application downtime and increasing the availability. Similarly this feature also enables automatic migration of server groups.

For more information, see Migrating Your Application in Administering an Oracle Tuxedo Application at Run Time.

Millisecond Granularity for Timeouts

This feature introduces millisecond granularity for various Tuxedo timeouts, and other configuration parameters, such as for SCANUNIT. Millisecond granularity allows faster cleanup,

restart, and migration of failed servers and nodes as well as faster transaction timeouts, enabling enforcement of tighter service level agreements, such as in algorithmic trading applications.

For more information, see ATMI C Function Reference, ATMI COBOL Function Reference, and File Formats, Data Descriptions, MIBs, and System Processes Reference.

Cross Domain Event Broker

This feature allows subscribe, unsubscribe, and post of brokered events across Tuxedo domains as can be done in a local Tuxedo domain.

For more information, see Subscribing to Events in Administering an Oracle Tuxedo Application at Run Time.

Server Side Pseudo Code from Service Definition

If a service definition is in Tuxedo Metadata Repository, this definition can be used to generate server pseudo code in 'C' programming language using `tmunloadrepos` command. Server side pseudo code is generated in addition to client pseudo code, which can be done in prior releases.

For more information, see `tmunloadrepos` in File Formats, Data Descriptions, MIBs, and System Processes Reference.

Nested Views for Jolt

Nested Views for Jolt are now supported in the 12c release

For more information, see Creating the Oracle Tuxedo Service Metadata Repository in Setting up an Oracle Tuxedo Application, and Using Oracle Jolt.

New Programming Model

Oracle Tuxedo 12c now includes a new programming model that makes it extremely simple to develop new Tuxedo applications in C++. The programming model, based on SCA and originally released in SALT 10gR3, is now part of Tuxedo installation and customers upgrading to Tuxedo 12c can use the new programming model without need for any additional product.

For more information, see Service Component Architecture.

Support for Dynamic Languages (PHP, Python, and Ruby)

Oracle Tuxedo 12c now includes framework to develop Tuxedo services in PHP, Python, and Ruby dynamic languages. The framework originally released in SALT 10gR3 is now included in Tuxedo 12c installer and customers upgrading to Tuxedo 12c release can use this framework to

develop Tuxedo services in these dynamic languages. The framework also includes client API for these languages and Apache Web server plugin to allow development of Web applications accessing Tuxedo services on the backend.

For more information, see Service Component Architecture.

Installation Upgrade Considerations

For complete information on upgrading to Oracle Tuxedo 12*c* Release 1 (12.1.1), see "Upgrading the Oracle Tuxedo System to 12c Release 1 (12.1.1) in Installing the Oracle Tuxedo System.

Oracle Tuxedo Software Components

The Oracle Tuxedo software consists of the following components:

- Oracle Tuxedo ATMI software

  The ATMI software enables you to build scalable ATMI applications using either of two programming languages: C or COBOL. This software includes the following components:

  – Oracle Tuxedo ATMI servers

  – Oracle Tuxedo /WS clients

  – Oracle Tuxedo Native clients

  – Oracle Tuxedo .NET Workstation clients

  – Oracle Tuxedo infrastructure

- Oracle Tuxedo CORBA software

  The CORBA software enables you to build scalable CORBA applications in the C++ programming language. This software includes the following components:

  – CORBA C++ servers

  – C++ client and server Object Request Broker (ORB)

  – Oracle Tuxedo object infrastructure

- Oracle Jolt 12*c* Release 1 (12.1.1) software

  Oracle Jolt is a Java-based interface to the Oracle Tuxedo system that extends the functionality of existing Oracle Tuxedo applications to include intranet- and Internet-wide availability.

- Oracle SNMP Agent software

  Oracle SNMP Agent for Oracle Tuxedo and Oracle WebLogic Enterprise is a Simple Network Management Protocol (SNMP) agent that enables Oracle Tuxedo and Oracle WebLogic Enterprise applications to be managed from an Enterprise Management Console.

Supported Platforms

Oracle Tuxedo software runs on the platforms listed in the following sections. Oracle has certified these platforms for development and production use with the Oracle Tuxedo 12*c* Release 1 (12.1.1) product. Oracle can provide customer support only for these platforms. Note that although Oracle has attempted to implement the Oracle Tuxedo software in a manner that conforms to industry-standards, it is not feasible for Oracle to certify its use with all third-party databases, ORBs, and other products.

Additional software ports and certifications will be made available after the initial release of 12*c* Release 1 (12.1.1). For information regarding subsequent ports and certifications, please refer to the Platform Support information on the Oracle Web site at the following link: Oracle Tuxedo 12c Release 1 (12.1.1)Platform Data Sheets.

Note: The required stack size for an Oracle Tuxedo server thread has slightly increased, you may need to adjust the thread stack size accordingly in case of stack overflow issues.