BEA Tuxedo®

New Features

Version 9.0
Document Released: June 28, 2005

Copyright

Restricted Rights Legend

Trademarks or Service Marks

Contents

About This Document

New Features and Enhancements

About This Document

This document provides reference information on file formats, data descriptions, Management Information Bases (MIBs), and system processes for the BEA Tuxedo system. The reference pages are arranged in alphabetical order by the name of the file format, data description, MIB, or system process.

What You Need to Know

This document is intended for the following audiences:

- Administrators who are interested in configuring and managing applications in a BEA Tuxedo environment
- Application developers who are interested in programming applications in a BEA Tuxedo environment

This document assumes a familiarity with the BEA Tuxedo platform and either C or COBOL programming.

e-docs Web Site

BEA product documentation is available on the BEA corporate Web site. From the BEA Home page, click on Product Documentation or go directly to the "e-docs" Product Documentation page at `http://e-docs.bea.com`.

How to Print the Document

You can print a copy of this document from a Web browser, one file at a time, by using the File—>Print option on your Web browser.

A PDF version of this document is available on the BEA Tuxedo documentation Home page on the e-docs Web site (and also on the documentation CD). You can open the PDF in Adobe Acrobat Reader and print the entire document (or a portion of it) in book format. To access the PDFs, open the BEA Tuxedo documentation Home page, click the PDF files button and select the document you want to print.

If you do not have the Adobe Acrobat Reader, you can get it for free from the Adobe Web site at http://www.adobe.com.

Related Information

Related documents are listed in the See Also section of each reference page. For MIBs, related information is listed for the MIB as a whole rather than for each class.

Contact Us!

Your feedback on the BEA Tuxedo documentation is important to us. Send us e-mail at docsupport@bea.com if you have questions or comments. Your comments will be reviewed directly by the BEA professionals who create and update the BEA Tuxedo documentation.

In your e-mail message, please indicate that you are using the documentation for the BEA Tuxedo 9.0 release.

If you have any questions about this version of BEA Tuxedo, or if you have problems installing and running BEA Tuxedo, contact BEA Customer Support through BEA WebSupport at http://www.bea.com. You can also contact Customer Support by using the contact information provided on the Customer Support Card, which is included in the product package.

When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number
- Your company name and company address
- Your machine type and authorization codes
- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

Documentation Conventions

The following documentation conventions are used throughout this document.

Convention	Item
boldface text	Indicates terms defined in the glossary.
Ctrl+Tab	Indicates that you must press two or more keys simultaneously.
italics	Indicates emphasis or book titles.

`monospace text`	Indicates code samples, commands and their options, data structures and their members, data types, directories, and filenames and their extensions. Monospace text also indicates text that you must enter from the keyboard.
	Examples:
	`#include <iostream.h> void main ( ) the pointer psz`
	`chmod u+w *`
	`\tux\data\ap`
	`.doc`
	`tux.doc`
	`BITMAP`
	`float`

`monospace boldface text`	Identifies significant words in code. *Example*: `void` **`commit`** `( )`
`monospace italic text`	Identifies variables in code. *Example*: `String` *`expr`*
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. *Example*s: LPT1 SIGNON OR
`{ }`	Indicates a set of choices in a syntax line. The braces themselves should never be typed.

Convention	Item
`[ ]`	Indicates optional items in a syntax line. The brackets themselves should never be typed. *Example*: `buildobjclient [-v] [-o name ] [-f file-list]... [-l file-list]...`
|	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.
. . .	Indicates one of the following in a command line: • That an argument can be repeated several times in a command line • That the statement omits additional optional arguments • That you can enter additional parameters, values, or other information The ellipsis itself should never be typed. *Example*: `buildobjclient [-v] [-o name ] [-f file-list]... [-l file-list]...`
. . .	Indicates the omission of items from a code example or from a syntax line. The vertical ellipsis itself should never be typed.

New Features and Enhancements

The following sections describe the new features and enhancements offered in the current BEA Tuxedo release:

- What's New in Tuxedo 9.1
- What's New in Tuxedo 9.0

What's New in Tuxedo 9.1

The following sections describe the new features and enhancements offered in BEA Tuxedo release 9.0:

- Oracle RAC Support
- Tuxedo .NET Workstation Client
- CORBA Java Interoperability Hardening
- Enhancements
  - Performance Enhancements
  - Customer Enhancements

Oracle RAC Support

Tuxedo 9.1 provides Transaction Monitor support for Oracle RAC by allowing an administrator to specify lists of groups associated with different RAC instances, thereby allowing Tuxedo to

ensure that groups associated with different instances of the same RAC database do not participate in the same transaction. The Tuxedo Oracle RAC support feature also provides a way for Tuxedo transaction manager server (TMS) processes to be notified of RAC failover events. Consequently, this allows the TMS to re-obtain a list of prepared transactions from Oracle as required for RAC failover recovery.

Oracle RAC Configuration Documentation

For more information about configuring Oracle RAC with Tuxedo, see the following documentation:

- Using Tuxedo with Oracle Real Application Clusters (RAC)
- Oracle Database 10g, Oracle Real Application Clusters Home Page
- Oracle Application Server 10g Adapters for Tuxedo
- Best Practices for Using XA with RAC

Tuxedo .NET Workstation Client

The Tuxedo .NET Workstation Client enables you to write Tuxedo client applications using .NET programming languages to access Tuxedo services. It also provides connectivity between .NET workstation applications and Tuxedo services.

In Tuxedo 9.0, an early version was released. In Tuxedo 9.1, the Tuxedo .NET Workstation Client has been fully tested and enhanced. Taking advantage of object oriented (OO) technologies and .NET facilities makes new APIs more OO-compliant, as well as easier to use.

The current release supports only the workstation *client programming*. Native client and server-side programming are not yet supported.

The feature is developed and available as a component of the Tuxedo 9.1 installation process.

Tuxedo.NET Workstation Client Documentation

Tuxedo .NET Workstation Client documentation is available on the Tuxedo 9.1 Site Map page on e-docs.bea.com. Refer to the Reference section of the Site Map page at the following URL:

http://e-docs.bea.com/tuxedo/tux90/interm/sitemap.htm

CORBA Java Interoperability Hardening

[RC] I have no idea what goes here. Could use some help from reviewers.

Enhancements

The following enhancements are available as part of Tuxedo 9.1:

Performance Enhancements

- TDomain transaction performance enhancement

  Improved performance when switching from Jolt or WLEC to WTC.

- Memory usage enhancement

  Significantly reduced Tuxedo memory footprint siz.

Customer Enhancements

- TPESYSTEM enhancement

  Adds information logs wherever TPESYSTEM occurs.

- TPEXIT enhancement

  Indicates "EXITING" status after `tpreturn(TPEXIT)` is called. Prevents further requests from being dispatched to the server.

- Increased RDOMS enhancement

  Provides service-level failover for at least 10 domains.

- Remote Desktop enhancement

  Allows Tuxedo to start using MS Windows Remote Desktop.

- GWTDOMAIN log message enhancement

  Provides TDOMAIN connection log information.

What's New in Tuxedo 9.0

The following sections describe the new features and enhancements offered in BEA Tuxedo release 9.0:

- Service Metadata Repository
- XML To and From FML/FML32
- Xerces Parser Upgrade

- Domain Gateway Performance Enhancement
- Domain Gateway Session Connection Policy
- Domain Gateway Connection Events
- IIOP Client Failover
- Service Level Blocktime
- Kerberos Authentication
- Cert-C PKI Plug-in
- Tuxedo .NET Workstation Client Documentation
- Enhancements
  - Customer Enhancements

Service Metadata Repository

The Tuxedo Service Metadata Repository is a respository similar to the Jolt repository. It provides Tuxedo application developers and administrators the ability to store and retrieve detailed services parameter information on any or all Tuxedo application services.

It is designed to process interactive queries by developers and administrators during application development or modification, and is not designed for the processing of high volumes of automated queries during the application production phase.

The Service Metadata Repository will provide enhanced Web services support and additional integration between Tuxedo and WebLogic.

Service Metadata Repository Documentation

For more information about the Service Metadata Repository, see the following documentation:

- *Setting Up a BEA Tuxedo Application*
- *BEA Tuxedo Command Reference*
- *BEA Tuxedo ATMI C Function Reference*
- *BEA Tuxedo File Formats, Data Descriptions, MIBs, and System Processes Reference*

XML To and From FML/FML32

To better enable integration of XML into BEA products, XML conversion to and from FML/FML32 in a Tuxedo environment is provided. The data conversion features provides:

- Application requests for on demand conversion via API functions
- Automatic conversion requests via a new BUFTYPECONV parameter in the SERVICES section of the UBBCONFIG file
- Support for FML/FML32 buffer types
- Support for all FML/FML32 field types

Note: XML to and from FML/FML32 conversion uses third-party libraries (for example, libticudata.so) that may be substantial in size.

Increasing the size of shared libraries may cause running Tuxedo application processes (that use the conversion feature) to consume increased amounts of memory which, in turn, can impact performance.

XML to and from FML/FML32 conversion should not be used by a Tuxedo system process.

XML To and From FML/FML32 Documentation

For more information about XML to and from FML/FML32 conversion, see the following documentation:

- *Programming a BEA Tuxedo ATMI Application Using C*
- *BEA Tuxedo ATMI C Function Reference*
- *BEA Tuxedo File Formats, Data Descriptions, MIBs, and System Processes Reference*

Xerces Parser Upgrade

Tuxedo 9.0 will deliver the Xerces parser 2.5.0 as part of the installation package. This upgraded parser will provide support for XML parser validation as well as continued XML support comparable to that of Tuxedo 8.1.

Xerces Parser Documentation

For more information about the Xerces parser upgrade, see the following documentation:

- "Tutorial for xmlfmlapp: A Full C XML/FML32 Conversion Application" in *Tutorials for Developing BEA Tuxedo ATMI Applications*
- "Tutorial for XMLSTOCKAPP: a C and C++ XML Parser Application" in *Tutorials for Developing BEA Tuxedo ATMI Applications*
- `getURLEntityCacheDir(3c)`, `setURLEntityCacheDir(3c)`, `getURLEntityCaching(3c)`, and `setURLEntityCaching(3c)` in *BEA Tuxedo ATMI C Function Reference*
- `tuxenv(5)` in *BEA Tuxedo File Formats, Data Descriptions, MIBs, and System Processes Reference*

Domain Gateway Performance Enhancement

This feature improves the Tuxedo domain GWTDOMAIN performance by introducing multithreaded execution capability. It also allows other types of domain gateways to take advantage of this feature in the enhanced Common Gateway Architecture with simple program changes.

Domain Gateway Performance Enhancement Documentation

For more information about the domain gateway performance enhancement, see the following documentation:

- *Using the BEA Tuxedo Domains Component*

Domain Gateway Session Connection Policy

This feature allows configuring a specific TDOMAIN session from a local GWTDOMAIN gateway to a remote GWTDOMAIN gateway.

This enhancement to the product allows for:

- different connection policy from the same local GWTDOMAIN gateway to different remote GWTDOMAIN gateways
- different connection policy from different local GWTDOMAIN gateways to the same remote GWTDOMAIN gateway
- restriction of session connection accessibility to one or more remote GWTDOMAIN gateways

The flexibility allows customers to have full runtime control of TDOMAIN sessions' connection policy.

Domain Gateway Session Connection Policy Documentation

For more information about the domain gateway session connection policy, see the following documentation:

- *Using the BEA Tuxedo Domains Component*
- *BEA Tuxedo Command Reference*
- *Using Security in ATMI Applications*
- `DMCONFIG(5)` in *BEA Tuxedo File Formats, Data Descriptions, MIBs, and System Processes Reference*

Domain Gateway Connection Events

Tuxedo 9.0 will report predefined events for Domain Gateway connections. Events will primarily report issues such as connection success, failure and dropped connections.

DM_MIB system events are added for T_DM_CONNECTION Class and include the following new events.

- .SysConnectionConfig
- .SysConnectionSuccess
- .SysConnectionFailed
- .SysConnectionDropped

Domain Gateway Connection Event Documentation

For more information about domain gateway connection events, see the following documentation:

- *Using the BEA Tuxedo Domains Component*

IIOP Client Failover

Tuxedo CORBA remote clients invokes object methods via an IIOP gateway. In some cases, the IIOP gateway connection may fail due to reasons such as a shutdown of the IIOP gateway or

network disconnection. This feature provides a transparent mechanism for a CORBA remote client to automatically connect to an alternative ISL and then retry the request.

IIOP Client Failover Documentation

For more information about IIOP client failover, see the following documentation:

- *BEA Tuxedo CORBA Programming Reference*

Service Level Blocktime

This feature provides applications with greater control over blocktime, providing capabilities to specify blocktimes for individual services, calls made by a particular Tuxedo context, or for one particular blocking call.

Administrators can override the systemwide BLOCKTIME value on a per-service basis. Programmers can override the systemwide BLOCKTIME value on a per-context and per-call basis.

Service Level Blocktime Documentation

For more information about service level blocktime, see the following documentation:

- *Setting Up a BEA Tuxedo Application*
- *BEA Tuxedo Command Reference*
- *BEA Tuxedo ATMI C Function Reference*
- *Administering a BEA Tuxedo Application at Run Time*
- *Programming a BEA Tuxedo ATMI Application Using C*
- *Programming a BEA Tuxedo ATMI Application Using COBOL*
- *BEA Tuxedo ATMI COBOL Function Reference*

Kerberos Authentication

Tuxedo 9.0 provides a Kerberos security plug-in which allows Tuxedo native clients via an authentication server, KAUTHSVR, to validate the credentials passed by the security plug-in and return results. The KAUTHSVR will also take over what the default AUTHSVR does to provide Tuxedo security ACL checking.

KAUTHSVR is a standard Tuxedo application server which provides a service called AUTHSVC. This service will authenticate the client by checking the credentials passed from the client as well as incorporate current AUTHSVR logic for Tuxedo native security checking.

Kerberos Authentication Documentation

For more information about Kerberos authentication, see the following documentation:

- *Using Security in ATMI Applications*
- `KAUTHSVR(5)` in *BEA Tuxedo File Formats, Data Descriptions, MIBs, and System Processes Reference*

Cert-C PKI Plug-in

Tuxedo 9.0 provides a Cert-C PKI plug-in which allows users to sign, seal, and envelope Tuxedo typed message buffers by using the public key encryption algorithm. The plug-in allows the typed buffer to be encrypted and then put a signature on it. By enveloping the typed buffer, the plug-in provides access to digital signature and encryption information associated with the buffer. LDAP provides the storage for the publicly accessible user certificate.

To use this plug-in, Tuxedo administrators must enable the plug-in by configuring it using PIF commands to modify the Tuxedo registry. The administrators will also need to configure and manage the LDAP server and its directory database.

Cert-C PKI Plug-in Documentation

For more information about the Cert-C plug-in, see the following documentation:

- *Using Security in ATMI Applications*

.NET Wrapper for Tuxedo Workstation Client

The Tuxedo .NET Workstation Client provides customers with access to the Tuxedo system using the .NET Framework environment. It is implemented as a set of APIs and development utilities for developers.

Many improvements have been made to the .NET wrapper APIs from the previous C-style ATMI APIs. Taking advantage of object oriented (OO) technologies and .NET facilities makes new APIs more OO-compliant, as well as easier and safer to use.

The current release supports only the workstation *client programming*. Native client and server-side programming are not yet supported.

The feature is developed and distributed as a stand-alone component of Tuxedo 9.0 and should be installed after the Tuxedo installation.

Note: The .NET wrapper feature is not part of BEA Tuxedo 9.0 release for general availability (GA). Full testing of this feature will be complete after the release. Please check BEA dev2dev Tuxedo product website for the .Net wrapper code at the following URL.

http://dev2dev.bea.com/tuxedo/

Tuxedo .NET Workstation Client Documentation

Tuxedo .NET Workstation Client documentation is available on the Tuxedo 9.0 Site Map page on e-docs.bea.com. Refer to the Reference section of the Site Map page at the following URL:

http://e-docs.bea.com/tuxedo/tux90/interm/sitemap.htm

Enhancements

The following enhancements are available as part of Tuxedo 9.0:

Customer Enhancements

- TMTRACE enhancement

  Allows user-level tracing.

- Servopt MIN=0 update

  Disables server booting when MIN=0 is specified.

- ULOG time stamp

  Allows ULOG time stamping in milliseconds

- ULOG rotation file

  Sets log file size limitation.

- `tmadmin(1)` update to `pclt` reporting to include IP address:

  Outputs client IP address when client name is not specified.

- MBSTRING support in VIEWs and JOLT:

  Allows MBSTRING capabilities in VIEW32 buffers and JOLT

- Support of sanity scans less than 5 seconds

- Warning message provided if MAXACCESSERS or MAXSERVERS are missing
- User-controlled ability to stop CMDTUX:4754 Messages