



# BEA

## High Performance Distributed Transaction Management

# TUXEDO® 8.1



If your challenge is finding a way to deliver stellar performance and bullet-proof reliability for your distributed transaction processing applications, BEA Tuxedo will take you there. With BEA Tuxedo, you can ramp up the performance of existing applications, as well as develop and deploy new ones, on a proven platform using your existing programming languages.

### EXECUTIVE OVERVIEW

In today's business environment, the demands placed on transaction processing systems are increasing relentlessly. Only an enterprise transaction processing platform with proven performance, reliability, and scalability can meet those demands. The right solution spans both the past—existing IT assets—and future technologies. BEA Tuxedo 8.1 gives you the platform to do it all.

The world's leading companies trust BEA Tuxedo to run their mission-critical transaction processing systems—wire transfers, ATMs, telecom. Why? It is the backbone for enabling transactions that stretch from customer-facing,

business-critical applications to back-office processes, across any system, anywhere in the world. Only BEA Tuxedo provides the rugged platform required to run these high volume applications across distributed, heterogeneous computing environments. And BEA Tuxedo both simplifies development and leverages your existing assets, while embracing new technologies such as Web Services.

### RELIABILITY, SCALABILITY, AND PERFORMANCE

Every day, billions of transactions put BEA Tuxedo to the test. And every day BEA Tuxedo stands up to the job of mission-critical reliability. Its robust architecture gives the highest availability



and throughput by replicating application services and dynamic load balancing. As demand increases, you can add additional services and capacity—on the fly—without disrupting ongoing operations. You gain virtually unlimited scalability, agility, and adaptability.

BEA Tuxedo's unrestricted scalability lets you manage the highest transaction peaks and respond in an instant to new throughput requirements. The system ensures maximum throughput, even when communicating with legacy applications or managing complex transactions across heterogeneous environments.

#### **EFFICIENT RESOURCE MANAGEMENT**

It's simplicity itself. BEA Tuxedo reduces your total cost of ownership by building on the technology you already use. Our efficient use of resources lets you do more with less: less hardware, less software, less complexity, less expense. Highly efficient resource management allows your IT organization to quickly build and deploy extremely scalable end-to-end solutions without worrying about the complexities of distributed data processing. BEA Tuxedo gives you a platform that reinvigorates the applications you already have.

At the heart of BEA Tuxedo is a high performance, highly reliable messaging engine that guarantees delivery. It provides synchronous, asynchronous, and conversational messaging APIs—all transparently, whether in one machine, a cluster of related machines, or across independent BEA Tuxedo Domains. BEA Tuxedo provides an elegant architecture that can help with systems consolidation, breathing new life into your existing application infrastructure and incorporating new technologies such as Web Services.

#### **MINIMIZED COMPLEXITY**

BEA Tuxedo hides the complexity of distributed processing so you can focus on enterprise end-to-end application development. Whether you're a C, C++, or COBOL developer, BEA Tuxedo's transaction processing capabilities can span heterogeneous environments and accelerate time to value. The BEA Tuxedo system lets you work with familiar tools while it streamlines application development with powerful APIs that handle low-level tasks such as coordinating resource managers and cross-platform message routing.

#### **BEA TUXEDO PRODUCT CAPABILITIES**

BEA Tuxedo delivers the essentials for developing and deploying mission-critical applications across distributed, heterogeneous computing environments. BEA Tuxedo is built on a multi-language platform that provides transactional, messaging, queuing, and security services with standards-based connectivity

#### **HIGHLY DISTRIBUTED TRANSACTION PROCESSING**

BEA Tuxedo provides you unrestricted flexibility to meet peak transaction volumes and changes in business demands and throughput. The system's replicated services framework and dynamic load balancing ensure maximum throughput when you need it. You can replicate services across different machines or configure the system to automatically spawn additional copies based on real-time system loads and throughput—providing highly scalable solutions. BEA Tuxedo balances the workload among all the available systems to ensure that they are evenly utilized, whether the services are on the same node or spread across nodes.

BEA Tuxedo's distributed processing management services can optimize transactions across multiple databases. The system's sophisticated transaction management helps ensure that all databases are updated properly or will “roll-back” the databases to their original state—assuring that data integrity is maintained despite component failures.

BEA Tuxedo is based on a high performance messaging engine to coordinate and route transactions and to efficiently manage resources. This engine provides synchronous, asynchronous, and conversational messaging APIs, and it provides these transparently. With data dependent routing, BEA Tuxedo can route messages based on their context. This enables efficient transaction processing and provides the highest level of performance and flexibility.

BEA Tuxedo's Web-based graphical administration automates many of the key management functions in a distributed system, minimizing operator intervention. BEA Tuxedo provides seamless integration with third-party SNMP management consoles to simplify application administration.

## **UNLIMITED SCALABILITY AND RELIABILITY**

BEA Tuxedo ensures the highest availability and throughput by dynamically replicating distributed applications throughout the network to maximize performance. It enables applications to handle requests in parallel and process transactions simultaneously on different, distributed nodes. Comprehensive monitoring, recovery, and roll-back capabilities for applications, networks, hardware, and transactions guarantee the integrity of your data. With BEA Tuxedo's robust fault management infrastructure, which minimizes downtime and keeps your application running by ensuring that there is no single point of failure, your applications are always available when and where your customers and partners need them.

For flexible processing or deferring transactions, BEA Tuxedo provides transaction queuing to allow distributed applications to work together in an asynchronous, "connection-less" fashion. Transaction queuing is a modular store-and-forward capability that prioritizes queues and defers processing based on various criteria such as message context, message content, and time of day. Ensuring constant access to applications, the BEA Tuxedo System continually monitors components for application, transaction, network, and hardware failures. In the event of a failure, it logically removes components from the system while automatically re-routing messages and transactions to surviving systems.

BEA Tuxedo security includes authentication, authorization, and encryption (link level encryption (LLE) Security) to ensure data privacy when deploying BEA Tuxedo applications across networks. BEA Tuxedo also provides a plug-in framework to support public key encryption, digital signatures, and third party security products for networked applications, enabling BEA Tuxedo to work within existing corporate security standards.

## **EXTENSIBLE INFRASTRUCTURE**

BEA Tuxedo can optimize resource management, even to legacy data sources, to improve your return on existing

investments in hardware and software. By dynamically balancing the workload across all available resources, and leveraging Tuxedo's robust communication system and transactional queuing, BEA Tuxedo allows IT organizations to increase the capacities of any applications—improving the performance, scalability, and reliability while eliminating the risk of outgrowing their business solution. By acting as a middle-tier database concentrator, the BEA Tuxedo System's powerful distributed transaction management allows clients and servers to participate in a distributed transaction that involves coordinated updating of multiple databases across any heterogeneous environment.

The BEA Tuxedo System's X/Open compliant ATMI API provides a consistent application programming interface across all supported hardware and operating system platforms. A choice of programming languages and models—including C, C++, and COBOL—allows your applications to inter-operate across languages and systems within the same transaction. BEA Tuxedo enables third-party object request brokers (ORBs) to bootstrap and authenticate to Tuxedo CORBA servers. Further, BEA Tuxedo can be used to develop multi-threaded CORBA C++ applications.

The BEA Tuxedo Domains gateway architecture extends the power of BEA Tuxedo to deliver interoperability among applications running in separate environments, networks, geographic locations, and companies as well as across application services, including BEA WebLogic Server. Tighter integration with BEA WebLogic Enterprise Platform™ allows your developers to fully propagate transactions between BEA Tuxedo and BEA WebLogic Server environments. This bi-directional, peer-to-peer connectivity allows enterprises to leverage BEA's best-of-breed J2EE products and rapidly built end-to-end applications, including support to expose BEA Tuxedo services as Web Services.

## BEA TUXEDO FEATURES AND BENEFITS

FEATURE	BENEFIT
Multi-language support (C, C++, and COBOL)	Gives companies the option to leverage their existing skills
Comprehensive transaction management system	Hide distributed application complexity, ensure data integrity
Highly scalable transaction processing	Capacity to meet the highest transaction volumes or changes in business throughput
Integration and interoperability with BEA WebLogic Enterprise Platform	Streamline complex business processes and leverage existing infrastructure assets
Web Services support via BEA WebLogic Workshop™	Improve interoperability with other platforms and applications
Bi-directional, peer-to-peer BEA WebLogic Tuxedo Connector	Simplify administration and interoperability
Standards-based application integration via BEA WebLogic Integration™	Develop, deploy, and integrate Tuxedo applications rapidly with new and existing applications, streamline complex business processes, and connect easily with business partners
Centralized security administration	Simplify security administration and reduce administrative overhead
Automated multi-byte characters codeset conversions	Simplify application development, maintenance, and out-of-the-box installation for Asia-Pacific locales
Bi-directional mainframe connectivity and integration	Enable BEA Tuxedo applications and IBM application components to operate as one integrated application across distributed systems
Advanced message queuing paradigm	Deliver high performance, reliable, asynchronous message delivery
XML support	Communicate with other XML-capable applications, XML-enabled data stores, and BEA eLink mainframe adapters
Robust fault management	Continue operations through planned and unplanned downtime
Support for third-party security products	Offers choices for your security implementations
Public key encryption and digital signatures	Meet corporate security standards
Data center-caliber administration	Minimizes operator intervention and supplies a seamless link to SNMP management consoles
Threads support	Provides the flexibility to choose the best programming environment

## PLATFORM AND REQUIREMENTS

For a current and complete list of supported platforms, go to [www.bea.com/products/tuxedo/](http://www.bea.com/products/tuxedo/)

## CONTACT BEA

For more information on how to dramatically increase developer productivity and reduce infrastructure complexity to realize business benefit, please contact us at 1.408.570.8000, or visit our Web site at [www.bea.com](http://www.bea.com).

## ABOUT BEA

BEA is the world's leading application infrastructure software company, with more than 13,000 customers around the world including the majority of the Fortune Global 500. The BEA WebLogic Enterprise Platform provides an industrial strength and easier to use software foundation that makes an enterprise more agile, productive, and connected, resulting in dramatically increased IT productivity and faster time to value. BEA's platform is the de facto standard for more than 1,700 systems integrators, independent software vendors, and application service providers who partner with BEA to ensure the successful deployment of customer solutions. BEA can be found on the Web at [www.bea.com](http://www.bea.com).



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