



## hp data sheet



### hp NonStop Tuxedo release 8.0 software

**The latest release of HP NonStop Tuxedo software advances the industry's best implementation of BEA Tuxedo technology by providing new capabilities, extended support for HP ServerNet clusters, and out-of-the-box transactional integration with CORBA and Java™ applications and heterogeneous databases.**

#### features at a glance

- Supports BEA WebLogic Server integration
- Provides out-of-the-box transactional interoperability
- Enables ZLE solutions
- Enhances message queuing
- Enables "hot upgrade" and scaling over ServerNet clusters
- Supports XML

NonStop Tuxedo transaction monitor software is the HP implementation of the BEA Tuxedo product on HP NonStop S-series servers and is based on the same source code. Because NonStop Tuxedo external interfaces are identical to those of BEA Tuxedo, available on more than 70 platforms, customers can use the same application program interfaces (APIs) and the same development, management, and administrative tools in creating applications for many different systems and databases.

NonStop Tuxedo Release 8.0 software provides full transactional integration with BEA WebLogic Server and transactional interoperability with HP Pathway, NonStop CORBA, and IBM WebSphere MQ software and IBM DB2, Microsoft® SQL Server, and Oracle® databases. NonStop Tuxedo software's ability to handle large transaction loads, fast response times, and interoperability in a mixed environment makes it uniquely suited for HP Zero Latency Enterprise (ZLE) solutions. ZLE solutions empower companies with real-time data integration and up-to-the-second customer and business views. The effects of this instantaneous awareness and response are profound and far reaching—affecting customers, suppliers, and trading partners, and a company's overall competitiveness and profitability.

#### major new capabilities and enhancements

*The new "hot upgrade" capability enables you to install the new release of NonStop Tuxedo while the customer application is running. This capability greatly enhances continuous availability of customer applications in multinode environments. In a NonStop Tuxedo domain spanning multiple nodes, the DBBL (master directory of services) server can migrate to an alternate master node in the cluster configured for that domain. This keeps the domain running should the master node become inaccessible. DBBL migration can be done in an orderly manner, without disruption to customer applications.*

*XML (eXtensible Markup Language) message buffers contain textual data annotated with tags that indicate the meaning and structural relationships of the data items. NonStop Tuxedo 8.0 adds support for analyzing XML annotated text messages. Like FML[32] and VIEW[32] message buffers, XML message buffers can be used with the Tuxedo Data Dependent Routing facility.*





*Embedded Tuxedo FML32* (Field Manipulation Language, 32 bits) buffers contain tokenized field values. Prior to NonStop Tuxedo 8.0, these fields could have only simple data types, such as integer, character string, and byte array. NonStop Tuxedo Release 8.0 adds support for embedded VIEW32 buffers, embedded FML32 buffers, and pointers to external buffers. These new types allow composite field values and dynamic data structures to be represented in FML32 buffers.

*Multicontexted clients* are Tuxedo application clients that join multiple Tuxedo applications concurrently and explicitly switch among the applications to interact with them. A client context is associated with each application that a multicontexted client joins.

*Tuxedo /Q message queuing* enhancements include the following:

- Nonpersistent messages that provide much higher enqueue/dequeue performance, although at the risk of being lost in the event of a server or processor failure
- Message expiration times that allow queued messages to be discarded if they are not dequeued for processing by a specified time
- A nonblocking TMQUEUE server that can process enqueue and dequeue requests while holding one or more dequeue requests until suitable messages are enqueued

- New dequeuing options that allow an application thread to wait for a specific (rather than any) message to be enqueued and that allow a message to be retrieved without removing it from its queue

*The Domain Management Information Base (DMIB)* extends the Tuxedo MIB administrative interface with object classes and attributes that represent Tuxedo Domain gateways. Objects of these classes can be used to configure and manage Domain gateways in a Tuxedo application programmatically.

*Administrator for NonStop Tuxedo* is now completely bundled (no separate order required) with Release 8.0, providing a clear, easy-to-use Web and Java technology-based graphical user interface (GUI) for administering NonStop Tuxedo software and customer applications. Authentication and encryption capabilities add security for the system administrator, and the software works with either Netscape Navigator or Microsoft Internet Explorer.

*Jolt for NonStop Tuxedo* is greatly enhanced and also bundled with Release 8.0 (no separate order required), providing out-of-the-box Internet integration capabilities. Java clients can now access Tuxedo and Pathway (via Translation Server) applications. In addition, Web application servers, such as Microsoft Internet Information Server (IIS) and Active Server Pages, IBM WebSphere MQ, and Sun iPlanet, as well as BEA WebLogic, can be integrated with back-end NonStop Tuxedo servers.



*Support for HP iTP Active Transaction Pages (iTP ATP)* software provides a server-side JavaScript environment with access to NonStop Tuxedo applications. Server-side JavaScript is an add-on to the HP iTP Secure WebServer, enabling customers to use the popular JavaScript scripting language and readily available Web content authoring tools. ATP uses the JavaScript interpreter with extensions to provide interfaces with NonStop Tuxedo software.

*LLE (Link Level Encryption) for NonStop Tuxedo 8.0 (SR74V1)* is an optional security package providing 128-bit encryption of data that flows over Tuxedo network links. The 56-bit LLE is included with standard NonStop Tuxedo software. This separate LLE product provides full 128-bit encryption to ensure data privacy, so a network-based eavesdropper cannot learn the content of Tuxedo system messages or application-generated messages.

*/WS OSS Client for NonStop Tuxedo 8.0 (SR73V1)* is an optional Tuxedo client software product for NonStop servers. It connects the NonStop server as a standard Tuxedo /WS client to any BEA Tuxedo and/or NonStop Tuxedo servers. Although this software is included with other clients in the base NonStop Tuxedo package, it is also available as a separate product that does not require a full NonStop Tuxedo license.



## out-of-the-box interoperability

NonStop Tuxedo provides industry-leading out-of-the-box interoperability with the following key application environments to easily integrate multiple systems and reuse existing application code while taking advantage of NonStop Tuxedo software's superior transactional capabilities.

- *Pathway* and NonStop Tuxedo can interoperate via a translation server, a special-purpose server that allows Pathway (SCREEN COBOL and Pathsend) requesters (clients or servers acting as clients) to access Tuxedo applications. In the other direction, local or remote Tuxedo requests are converted to PATHSEND interprocess messages and forwarded to the corresponding Pathway server classes.
- *IBM WebSphere MQ* and NonStop Tuxedo can interoperate, allowing Tuxedo clients and servers to place messages in and retrieve messages from WebSphere MQ queues, which in turn communicate with WebSphere MQ systems on more than 30 different platforms. Both products use HP NonStop Transaction Management Facility (NonStop TMF) software, enabling transactional interoperability between WebSphere MQ and NonStop Tuxedo software.
- *NonStop CORBA* and NonStop Tuxedo can interoperate so that a NonStop Tuxedo server can act as a CORBA client and a NonStop CORBA server can act as a NonStop Tuxedo client, which enables propagation of transactions. In addition, a single client process can act as a NonStop CORBA client and also as a NonStop Tuxedo client by binding in the runtime of both these environments.

- *Web servers*, including Apache, Microsoft IIS, and HP iTP WebServer software, can access NonStop Tuxedo applications using Jolt for NonStop Tuxedo software (bundled with Release 8.0). This includes use of Jolt connection pools, firewall support, and transaction propagation to enable large-scale enterprise applications.
- *J2EE application servers*, including IBM WebSphere MQ, Sun iPlanet, and BEA WebLogic, can also interoperate with NonStop Tuxedo applications using Jolt for NonStop Tuxedo software. For high security, Jolt allows you to encrypt data transmitted between your J2EE application server and NonStop Tuxedo, as well as introduce a firewall between the two environments.

## BEA WebLogic and NonStop Tuxedo integration

The BEA WebLogic Tuxedo Connector (WTC) enables bidirectional interoperability between the BEA WebLogic Server and Tuxedo Application Transaction Monitor Interface (ATMI) (see figure 1). It uses the Tuxedo domain technology and supports the following capabilities:

- BEA WebLogic clients can invoke Tuxedo services.
- Tuxedo clients can invoke BEA WebLogic EJBs (Enterprise Java Beans) in response to service requests.

A single sign-on environment between BEA WebLogic Server and the NonStop Tuxedo system allows a BEA WebLogic Server principal to access Tuxedo services, enabling propagation of the security context for the requesting WebLogic Server principal to the Tuxedo domain. Transactions also propagate in both directions, enabling Tuxedo and WebLogic components to participate in the same unit of work (transaction).

## enabling ZLE solutions

A zero latency enterprise depends on comprehensive and efficient data and application integration. Zero latency operations require a new type of unifying architecture for integrating, synchronizing, routing, caching, and transacting in real time. An integral part of the ZLE framework, NonStop Tuxedo integrates all the solution components of even the most demanding ZLE projects and maintains transactional integrity across different components, from BEA WebLogic to IBM WebSphere MQ to HP NonStop SQL software (see figure 2).

NonStop SQL database software powers the ZLE data store and is fully integrated with NonStop Tuxedo 8.0. This integration enables a single transaction log for the entire ServerNet cluster and all its components. NonStop Tuxedo software communicates with other Tuxedo systems on other platforms via /Domain gateway. This provides

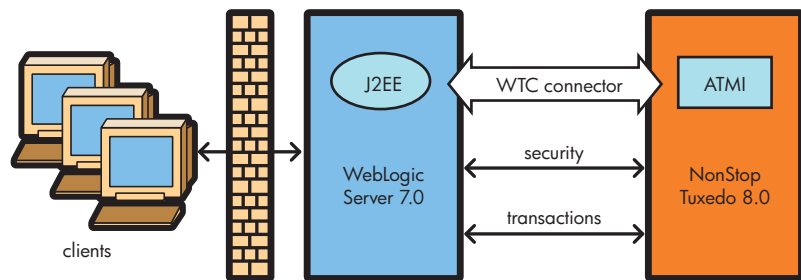


Figure 1: WTC enables a scalable e-commerce architecture that has been proved effective for some of the most rapidly growing websites. It allows ZLE environments to combine the power of Java (J2EE) and robust NonStop Tuxedo transactions and high-performance NonStop SQL access.

transactional access to other systems and databases such as Oracle, Microsoft SQL Server, Sybase, and IBM DB2.

NonStop DTE (Data Transformation Engine) consists of best-of-breed data transformation software for automating transformations in a transactional environment. NonStop DTE runs as a NonStop Tuxedo server—gaining all the reliability and scalability that this implies. Invoking NonStop DTE from another NonStop Tuxedo application is simply invoking another Tuxedo server. In addition, messages that need to be transformed can also be received or sent to NonStop Tuxedo /Q.

The ZLE Development Kit (ZDK) includes tools to create customized ZLE applications that are generated as NonStop Tuxedo services. Such applications include the following:

- HP Interaction Manager provides personalization, selling recommendations, and fraud detection services to requesting applications within the ZLE framework.
- HP Customer Manager addresses, in real time, the need for superior-quality customer information for customer relationship management (CRM).

## for more information

To learn more about NonStop Tuxedo, BEA Tuxedo, and ZLE, visit the following websites:

- NonStop Tuxedo: [www.nonstop.compaq.com/view.asp?PAGE=NSTUX\\_SW](http://www.nonstop.compaq.com/view.asp?PAGE=NSTUX_SW)
- BEA Tuxedo: [edocs.bea.com/tuxedo/tux80/index.htm](http://edocs.bea.com/tuxedo/tux80/index.htm)
- ZLE: [www.hp.com/go/zle/](http://www.hp.com/go/zle/)

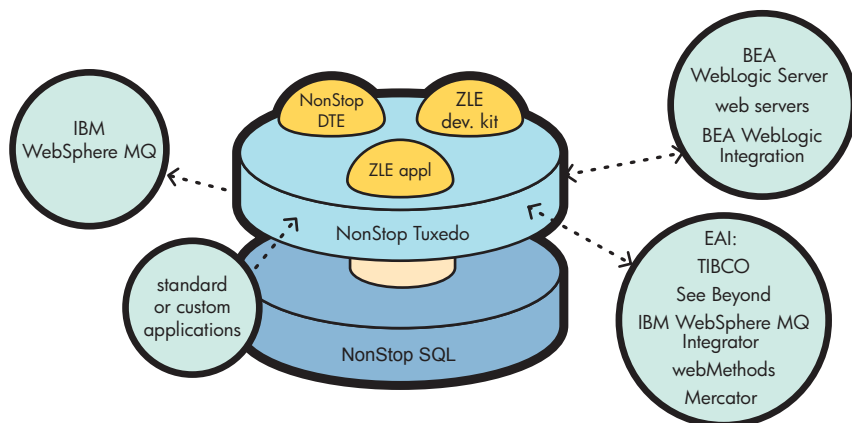


Figure 2: NonStop Tuxedo is fully integrated with BEA WebLogic Server to enable Java (J2EE) and high-performance C/C++ applications. The most demanding ZLE applications can be built using this technology, including enterprise application integration (EAI) and messaging applications, to provide data to the NonStop SQL database and synchronization with other customer's applications.

## ordering information

product ID	description
SR71V1	NonStop Tuxedo Release 8.0 for NonStop servers, 1–4 processors
SR72V1	NonStop Tuxedo Release 8.0 for NonStop servers, 5–16 processors
SR73V1	/WS OSS Client for NonStop Tuxedo 8.0 is the Tuxedo client for NonStop servers. Licensed per system and requires OSS but does not require SR71V1; it can run standalone as a Tuxedo client to other BEA Tuxedo and NonStop Tuxedo 8.0 servers.
SR74V1	LLE for NonStop Tuxedo 8.0 provides 128-bit encryption. Licensed per system and requires SR71V1.

### additional client licenses

SN62A	NonStop Tuxedo additional /WS client licenses: 5 users
SN62B, C,...	NonStop Tuxedo additional /WS client licenses: 10 users, 25 users, and so on
SN62R	NonStop Tuxedo additional /WS client licenses: 15,000+ users

1. NonStop Tuxedo Release 8.0 package includes NonStop Tuxedo core services, BEA Tuxedo /WS clients for all supported platforms, /WS OSS Client for NonStop Tuxedo 8.0, and an appropriate version of the NonStop Transaction Management Facility (NonStop TMF) software, Administrator for NonStop Tuxedo, and Jolt for NonStop Tuxedo.
2. NonStop Tuxedo Release 8.0 license permits use of the software on systems with the licensed number of processors. (The customer must have a license for *all* processors in the system.)
3. The license also permits installation of one BEA Tuxedo /WS client on one machine. Order SN62A-R for additional workstation licenses. For the latest list of clients, see <http://www.bea.com/products/tuxedo/platforms.shtml>.
4. Jolt (Java) clients do not require a software license. Such clients can be freely distributed to any number of users.
5. Upgrades from NonStop Tuxedo 6.5 releases are available at no charge. For an upgrade program for NonStop Tuxedo Release 1 and 2, contact your sales representative.

## specifications

system requirements	
hardware	Any NonStop S-series server
software	NonStop Kernel operating system Release Version Update G06.11 or later NonStop Kernel OSS, the native-mode C compiler, and for COBOL bindings, the native-mode COBOL85 compiler, nmcobol

For a complete list of software requirements, see the ReadMe file, which appears on the distribution CD for the NonStop Tuxedo Release 8.0 product and on the NonStop Tuxedo website at <http://nonstop.compaq.com/nsswdocs/tuxedo/home.htm>.

Although BEA Tuxedo 8.0 and NonStop Tuxedo 8.0 are based on the same source code, there are some differences between implementations. See NonStop Tuxedo documentation for details.

For more information, go to [www.hp.com/go/nonstop](http://www.hp.com/go/nonstop).

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