



BEA eLinkTM for Mainframe TCP

Release Notes

BEA eLink for Mainframe TCP Release Notes 3.2
Document Edition 3.2
September 2001

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BEA eLink for Mainframe TCP Release Notes

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BEA eLink for Mainframe TCP

Release Notes

BEA eLink for Mainframe TCP Version: 3.2
Date: September 2001

About eLink for Mainframe TCP 3.2

BEA eLink for Mainframe TCP 3.2 provides Tuxedo applications transparent non-transactional, request-response connectivity to mainframe-based applications.

Note: All references to Tuxedo can be applied to WebLogic Enterprise 6.0, which employs the same software technology.

What's New

The following features are new for BEA eLink for Mainframe TCP 3.2:

- Support for Tuxedo 8.0
- Tuxedo 8.0 security plug-in support

The security plug-in makes the appropriate calls in eLink for Mainframe TCP when external security interfaces are used in conjunction with mainframe application requests.

- Data dependent routing

This feature allows you to configure a routing entry for any service defined for the Tuxedo gateway. The Tuxedo gateway uses the routing criteria to decide which remote domain will process each request to that service.

- XML buffer support

eLink for Mainframe TCP supports the conversion of XML buffers to EBCDIC before mainframe transmission and EBCDIC mainframe buffers to XML before transmission to the Tuxedo service.

- Migration support for the `-r` option

The `-r` option employed in the Connect TCP products has been included in eLink for Mainframe TCP. The `-r` option specifies that the server should record in its standard error file a log of services performed and their associated average elapsed time.

BEA eLink for Mainframe TCP Platform Support

BEA eLink for Mainframe TCP 3.2 is supported for the following platforms:

Platform	ATMI Platform Version
IBM AIX 4.3.3	Tuxedo 8.0
HP-UX 11.00 with patches PHKL_21039, PHKL_21684, and PHKL_21778	Tuxedo 8.0
SUN Solaris 7 (Sparc)	Tuxedo 8.0
SUN Solaris 8 (Sparc)	Tuxedo 8.0
Microsoft Windows NT 4.0 (Intel) with Service Pack 5	Tuxedo 8.0
Microsoft Windows 2000	Tuxedo 8.0

Minimum Hardware Requirements

This section describes the minimum hardware requirements for the BEA eLink TCP product.

- Any S/370 or S/390 processor capable of supporting the required software products listed in the section “BEA eLink for Mainframe TCP Software Requirements.”
- TCP/IP network connectivity

BEA eLink for Mainframe TCP Software Requirements

This section describes the minimum software requirements for the BEA eLink TCP 3.2.

BEA eLink for Mainframe TCP Supported Stacks

BEA eLink for Mainframe TCP functions with IBM TCP for MVS and Interlink TCPaccess TCP/IP stack products. The following releases are recommended:

- IBM TCP/IP version 3.1
- NetworkIT TCPaccess, formerly Interlink TCPaccess 4.3

BEA eLink TCP for IMS

The following software runs with BEA eLink TCP for IMS:

- IBM IMS/TM 6.1 or 7.1
- IBM OS/390 2.8, 2.9, or 2.10

BEA eLink TCP for CICS

The following software runs with BEA eLink TCP for CICS:

- IBM CICS 4.1 and TS 1.2, 1.3, or 2.1
- TCP/IP for MVS Version 3.1 with CICS Socket Interface
- C/370 Runtime Library Version 2.1 or higher
- IBM OS/390 2.8, 2.9, or 2.10

Installing Your Software License

You must enter the license key for eLink for Mainframe TCP software to enable the connection capabilities for your system. As a prerequisite, BEA Tuxedo must be installed and operational with its license key file available. To enable the eLink for Mainframe TCP license key, you must append the license key file provided with the product software to the BEA Tuxedo license key file.

Caution: Do not alter any information within sections of the license key files. Doing so may disable your product software.

Perform the following steps to use the license key.

1. With the text editor of your choice, open the Tuxedo license key file in `$TUXDIR/udataobj/lic.txt`. An example of this file follows:

Listing 1 Sample BEA Tuxedo License Key File

```
[BEA TUXEDO]
VERSION=8.0
LICENSEE=BEA Internal Development User
SERIAL=177
ORDERID=Internal
USERS=400000
TYPE=SDK
DEVELOPERS=200000
EXPIRATION=2001-12-31
SIGNATURE=xxx
```

2. Append the eLink for Mainframe TCP license key file to the Tuxedo license key file. An example of the eLink for Mainframe TCP license key follows:

Listing 2 Sample eLink TCP License Key File

```
[eLink_TCP v3]
LICENSEE=*** BEA SYSTEMS ***
SERIAL=8882327878
ORDERID=N/A
EXPIRATION=2000-10-20
SIGNATURE=xxx
```

3. Save the file and exit the text editor. Your license key is now in effect.

Upgrading from Previous Releases

The following sections provide information for upgrading from previous releases of Connect TCP or eLink for Mainframe TCP.

Upgrading from Connect TCP 2.0 or 2.1, or eLink for Mainframe TCP 3.0 or 3.1

If you are upgrading to eLink TCP 3.2 from BEA Connect TCP 2.0 or 2.1, or eLink for Mainframe TCP 3.0 or 3.1, perform a new installation of the product. You will need to edit the `UBBCONFIG` file as well as set up configuration files and a `DMCONFIG` file. Refer to configuration information in the BEA eLink for Mainframe TCP 3.2 Online Documentation CD.

Note: Make certain you have already installed Tuxedo 8.0, which requires you to set up a new directory for the installation.

Upgrading from eLink TCP 3.x

To support the data-dependent routing feature of eLink TCP 3.2, some additional restrictions were placed on the contents of the `GWICONFIG` file.

In prior releases, no restrictions were placed on the naming of the entries in the `NATIVE` and `FOREIGN` sections of the `GWICONFIG` file. With the 3.2 release, each entry in the `NATIVE` section of the `GWICONFIG` files must have a corresponding entry with an identical name in the `DM_LOCAL_DOMAINS` of the `DMCONFIG` file. Each entry in the `FOREIGN` section of the `GWICONFIG` file must have a corresponding entry with an identical name in the `DM_REMOTE_DOMAINS` section of the `DMCONFIG` file.

Because service routing is now determined by the contents of the `DMCONFIG` file, services in the `LOCAL_SERVICES` section of the `GWICONFIG` file no longer need to be tied to `NATIVE` entries in that file. As a result, the `NATIVE` keyword is no longer valid for entries in the `LOCAL_SERVICES` section. Services are now tied to local domains in the `DMCONFIG` file, by specifying the corresponding `LDOM` in the service entry in the `DM_LOCAL_SERVICES` section, or by applying default service assignment rules.

For the same reasons, services in the `REMOTE_SERVICES` section of the `GWICONFIG` file no longer need to be tied to `FOREIGN` entries in that file. As a result, the `FOREIGN` keyword is no longer valid for entries in the `REMOTE_SERVICES` section. Services are now tied to remote domains in the `DMCONFIG` file, by specifying the corresponding `RDOM` in the service entry in the `DM_REMOTE_SERVICES` section, or by using a routing

statement to specify data-dependent routing, or by applying default service assignment rules. For information about configuring data-dependent routing using the `ROUTING` command, refer to the BEA Tuxedo documentation.

Conversion Utility for eLink TCP for CICS Inbound Service Table (BEACIC02) Information

If you are upgrading from BEA Connect TCP 2.1 or previous release to eLink TCP 3.2, you can use the `CNVTISNC` utility program with the eLink TCP for CICS component. `CNVTISNC` will write the information contained in the assembled Inbound Service Table (BEACIC02) used by Connect TCP 2.1 (or previous releases) into the VSAM file used for configuring Inbound Services in eLink TCP for CICS 3.x.

The `CNVTISNC` program is defined to your CICS region by using the CSDU that defines the other resources associated with eLink TCP for CICS 3.2; however, you must define and install a transaction to execute the program.

The prelinked and linked versions of `CNVTISNC` are on the product CD for eLink for Mainframe TCP 3.2. Use one of the following scenarios for linking:

- Submit the JCL `MAKLKED` to link the `CNVTISNC` prelinked object if you do not have a C 370 compiler or you chose not to customize the resource names.
- Submit the JCL `MAKL0` to link the `CNVTISNC` prelinked objects if you want to change the resource names.

The Connect TCP for CICS 2.1 (or earlier) Inbound Service Table contains the following information.

- Program name for each local service
- Length of `COMAREA` corresponding to each local service

The eLink TCP for CICS 3.x Inbound Service records contain the following information.

- `REMOTE SERVICE NAME`
- `LOCAL SERVICE NAME`
- `TRANSACTION NAME`

- MAX MESSAGE SIZE
- SECURITY

Mapping Inbound Service Record Values Between Version 2.1 and 3.x

Table 1 shows how the CNVTISNC program maps the contents of the different Inbound Service records.

Table 1 Inbound Service Record Mapping Between Version 2.1 and 3.x

eLink TCP for CICS 3.x	Connect TCP for CICS 2.1 or earlier
REMOTE SERVICE NAME =	Program name
LOCAL SERVICE NAME =	Program name
MAX MESSAGE SIZE =	Length of comarea for each local service

- The TRANSACTION NAME for eLink TCP for CICS 3.x is set to the transaction name that starts the Application Handler which is stored in the BEACFGSV file. The name of the transaction is BEAA unless it was renamed in BEACFGSV during installation.

Note: If the service process request requires no response, then you must change the TRANSACTION NAME field corresponding to that service manually from the name of the transaction that starts the Application Handler to the unique transaction name associated with that service.
- SECURITY is set to N because Connect TCP for CICS 2.1 (or previous releases) did not have service-by-service security. This setting indicates no service level security and can be changed manually.

Running the CNVTISNC Program

You must define and install a transaction to execute the CNVTISNC program. The default Inbound Service Table name (for release 2.x) is BEACIC02. Your Inbound Service Table (for release 2.x) must be in a LOADLIB that is listed in the DFHRPL concatenation for your CICS region.

If your assembled Inbound Service Table is *not* named BEACIC02, you can enter the unique name of the Inbound Service Table (for release 2.x) on the command line after the name of the transaction.

Note: Running the transaction that executes the CNVTISNC program in the background will use the default Inbound Service Table name, BEACIC02.

Known Problems

The JCL provided for linking the CICS requester (LNKIBM, LNKINT) may cause problems on some system configurations. In IBM APARs II10227 and PQ19993, it is recommended that when linking with the SEZACMTX and SCEELKED libraries, SEZACMTX be ahead of SCEELKED in the SYSLIB statements, as follows:

```
//SYSLIB      DD ...  
//           DD DSN=hlq.SEZACMTX,DISP=SHR  
//           DD ...  
//           DD DSN=hlq.SCEELKED,DISP=SHR  
//           DD ...
```

The JCL provided does not conform to this recommendation. You may need to edit the provided JCL before linking the requester, as shown in the following example of a SYSLIB section:

```
//SYSLIB      DD DSN=CICS.SDFHLOAD,DISP=SHR  
//           DD DSN=&TCPLIB,DISP=SHR  
//           DD DSN=SYS1.SEZACMTX,DISP=SHR  
//           DD DSN=SYS1.SCEELKED,DISP=SHR
```

Fixed Problems

This section describes known problems from previous releases of eLink for Mainframe TCP that have been fixed with the current release of the software. The following table lists a Case or CR (Change Request) number for each problem. Refer to this number to conveniently track the solution as the problems are resolved.

Please contact your BEA Customer Support for assistance in tracking any unresolved problems. For contact information, see the “Contacting BEA Customer Support.” section.

1	CR017899	eLink TCP 3.0 - need multiple LMIDs for a service name
	Problem	The eLink TCP 3.0 design only allows you to specify a service with one LMID. In Connect 2.x, you could specify a service to multiple LMIDs. This functionality was replaced by allowing multiple connections on a single LMID. However, the ability to have services defined on multiple machines in case one machine fails is no longer available. With the current setup, no failover or load balancing is available.
	Platform	All
	Workaround	Fixed in CICS gateway
2	CR018984	eLink TCP 3.1 abend s0c4
	Problem	Gateway abending with abend 0c4
	Platform	MVS IMS
	Workaround	Fixed in IMS gateway
3	CR020640	Wrong message: Error Handler on Bealog - eLink TCP 3.1
	Problem	A fix is needed to get the exact RSP2 code when BEAH gets an invalid request on EXEC CICS START TRANSID('BEAA').
	Platform	MVS CICS
	Workaround	Fixed in CICS gateway

4	CR031880	eLink TCP 3.1:gwidomwin errors 1116, 1122, 1120 after mainframe upgrade
	Problem	The following upgrades on the Mainframe produced many GWIDOMAIN errors on the HPUX 10.20 side.
	Platform	IMS
	Workaround	Fixed in IMS gateway
5	CR031928	Connect TCP2.1 Experiencing timeouts on IMS from AIX 4.2
	Problem	Unexplained timeouts occur.
	Platform	IMS
	Workaround	Added tracing to IMS gateway
6	CR034174	TCP 3.1 GWIDOMAIN doesn't automatically start after outage of TCP CICS SOCKETS
	Problem	After a TCP CICS sockets outage, the GWIDOMAIN does not automatically start. A recycle of GWIDOMAIN is required to establish connectivity.
	Platform	CICS
	Workaround	Fixed in CICS gateway
7	CR038690	eLink TCP 3.1 -IMS- with OS390 V2R9 - BMP shutdown RC=0 in case of intense traffic
	Problem	When migrating to OS390 V2R9, the BMP (BEATCPI) sometimes stops alone with RC=0.
	Platform	IMS
	Workaround	Fixed in IMS gateway

8	CR041008	eLink TCP 3.1 patchlevel 6 and tux65 read socket failed
	Problem	It appears that in the production system, some clients making request to the mainframe from the eLink TCP gateway receive a buffer coming back from another previous request, operated by some other client requests.
	Platform	AIX
	Workaround	Fixed in ATMI and CICS gateways
9	CR042590	eLink TCP3.1 Server -tpreturn(TPFAIL, 0, (char *)NULL, 0L, 0); Does NOT work
	Problem	A mainframe application calls a Tuxedo Service on a UNIX box and the mainframe data is translated from a String to a VIEW32 to a FML32 automatically through the use of config files (gateway domain). The Tuxedo Service creates (tpalloc) a string reply buffer. If the service completes successfully, it returns (tpreturn(TPSUCCESS)) the allocated string buffer with data. However, an error (tpreturn(TPFAIL)) does not allow the allocated string buffer to be returned. The server is expecting the data in a view32 format.
	Platform	Solaris
	Workaround	Fixed in the ATMI gateway
10	CR042886	eLink TCP3.1 bad conversion from FML32 short to VIEW32 string
	Problem	Conversion between FML32 and View32 in TCP Gateway does not always work. Converting from an FML field short to a View field string works when the number is lower than 1000 (from 0 to 999) and does not work if greater than 999.
	Platform	AIX
	Workaround	Fixed in ATMI platform
11	CR044006	eLink TCP 3.1 - TSQ not deleted - memory problems
	Problem	The TS Queues (Temporary Storage Queues) with names beginning with BEAP* are not deleted.
	Platform	CICS
	Workaround	Fixed in CICS gateway

12	CR046440	eLink for Mainframe TCP 3.1 - LIBGWI_CAT:1116 unexplained
	Problem	The cause of timeouts during transactions cannot be determined.
	Platform	OS/390
	Workaround	Fixed in ATMI gateway
13	CR048274	eLink TCP3.1 Requestor Max_Conn and Multiplex_CNT usage not working properly
	Problem	The Requestor Max_Conns and Multiplex_cnt are not working properly.
	Platform	MVS CICS
	Workaround	Fixed in CICS gateway
14	CR050359	eLink TCP 3.1 - modified length return message View to COBOL Client is padded with garbage
	Problem	A Tuxedo client (written in Cobol) calls a service to CICS. The return message is received in a buffer View. When they modify the return message length from CICS (using TWA), the gateway receives the message. Under these circumstances, the View field is not padded with spaces or low-values as it should be.
	Platform	AIX
	Workaround	Fixed in ATMI gateway

Where to Get Product Documentation

Documentation for this product is available from the following locations:

- On the BEA corporate Web site. From the BEA home page at <http://www.bea.com>, click on Product Documentation or go directly to the “e-docs” Product Documentation page at <http://e-docs.bea.com>.
- On the eLink for Mainframe TCP documentation CD. The documentation CD includes Web-browsable HTML and easy-to-print Adobe Acrobat PDF documentation for this product.

To access the PDFs, open the eLink for Mainframe TCP documentation home page, click the PDF files button and select the document you want to view or 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>.

Using the eLink TCP Online Documentation

You can install the HTML files on your server or client, or leave them on the CD. If you copy the files to your system, you should maintain the directory structure that was provided on the CD. However, you can move that directory structure to any location. The files are located on the CD-ROM in the `docs/elinktcp/v32` directory. Note the pathname for the directory where you install them on your server or client.

The documentation CD includes a Java search applet to help you find eLink TCP topics in the documentation. To use the search capabilities, your browser must have Java support enabled. For information on limitations of the search capabilities, see “Documentation Search Applet Limitations.”

To view the documentation, you need a Web browser that supports HTML 3.0 features including tables and frames. Netscape Navigator 4.0 or later or Microsoft Internet Explorer 4.0 or later are recommended. When you install the HTML files, they will be located in a directory on your system. You should keep the HTML files that are contained within a directory together. However, you can move that directory to any location.

Note: It is recommended that you locate the HTML browser and the HTML files on the same client or server device.

Accessing the Documentation

To begin viewing the online documentation, use one of the following methods to open the HTML file in a Web browser:

- Use the following path to access the document from the CD:
`<cdrom>docs/elinktcp/v32/index.htm`
- Use the following path to access the document installed to a Web server.

<http://docs/mlinktcp/v32/index.htm>

On UNIX systems, you may need to mount the CD before you are able to access the `index.htm` page. For mounting instructions on UNIX platforms, refer to the installation instructions in the eLink for Mainframe TCP CD-ROM.

Using the Documentation Home Page

When you open the `index.htm` file, the eLink for Mainframe TCP Documentation home page displays on your Web browser. This display serves as your entry point to many online sources of information. It contains the following important features:

- Banner containing the name and version of the product
- Home key colored gold to signify you are located at the home destination for product documentation
- Search key used to launch the documentation search engine
- Contact key used to display Documentation Support and Customer Support information
- PDF key used to access a PDF version of the product documentation

If you do not have Adobe Acrobat Reader to read PDF files, there is a hot link to the Adobe Systems Incorporated Web site so you can acquire the Adobe Acrobat Reader.

- Topics list containing links to product documentation

Printing the PDF File

You must have the Adobe Acrobat Reader to view and print the PDF file. If you do not have this reader, you can obtain it free of charge from the Adobe Systems Incorporated Web site at www.adobe.com. (Please note that the eLink for Mainframe TCP Documentation home page contains a link to this site.)

Printing from the Web Browser

You can print a copy of this document, one file at a time, from the Web browser. Before you print, make sure that the topic you want is displayed and *selected* in your browser. (To select a topic, click anywhere inside the frame you want to print. If your browser offers a Print Preview feature, you can use the feature to verify the topic you are about to print.)

Documentation Search Applet Limitations

The documentation CD includes a Java search applet to help you find eLink for Mainframe TCP topics. The following sections describe current limitations with the search applet.

Special Characters

The search applet does not find strings containing some special characters, such as slashes(/) and/or dollar signs (\$). The Java search applet does find strings containing underscores (_) and periods (.). Attempts to search for strings with unsupported special characters result in a “No matches” message.

The Java search applet uses a precompiled search database of topics. Because of the way the search database is built, you must adhere to one of the following options to use the CD search feature:

- Use the CD on a local CD reader.
- Map a network drive to a remote, shared device that contains the CD or a copy of the CD's content; in your browser, use the network drive to find and open the `index.htm` file in the CD's top documentation directory.
- Copy the CD's content to a local drive on your system.
- Copy the CD's content to a Web server on your corporate intranet. Make sure that `index.htm` is the default file name used by the Web server software. The product CD contains a file called `index.htm`, which is the home page or creates

the framework for the online documentation. The pathname for this file on the CD is

```
\doc\<product>\<version>\index.htm.
```

If your Web server software does not allow you to use a file named `index.htm`, make a copy of `index.htm` and rename the copy with the default filename you must use, such as `default.htm`. Keep both the original `index.htm` file and your renamed copy of it in the same directory.

You cannot use the search applet if you have accessed the CD or a copy of its content through a Universal Naming Convention (UNC) path. For example, UNC paths are used by the Windows NT Network Neighborhood. The search applet does not interpret relative paths to the matched target `*.htm` pages because the UNC path is added to the beginning of each link. To use the CD search feature, please use one of the four recommended methods listed earlier in this section.

Only the search applet's results list is affected by this UNC limitation. You can use UNC paths, such as accessing the CD on a Network Neighborhood system's shared CD device, for all other relative hyperlinks on the CD.

Additional Search Tip

The search applet returns a list of HTML files that contain the search keyword(s) you enter. When you double-click an entry in the search results list, the applet displays the target HTML file. To get the name of the book containing this HTML file, click the [TOP] hyperlink. The book's title page (which shows the name of the book) is displayed. You can then click the Back button in the browser to return to the HTML file that was originally displayed.

Browser Version and Platform Limitations for the Search Applet

Testing has shown that the Java search applet performs well on:

- Microsoft Windows NT 4.0 systems running Netscape 4.x, or Microsoft Internet Explorer 4.x
- Microsoft Windows 95 systems running Netscape 4.x, or Microsoft Internet Explorer 4.x
- Microsoft Windows 98 systems running Netscape 4.x, or Microsoft Internet Explorer 4.x

-
- Sun Solaris systems running Netscape 4.x, or Microsoft Internet Explorer 4.x

Browser Error on UNIX Platforms

On some UNIX platforms, you may encounter a browser error message similar to the following:

Unable to start a java applet: Can't find 'java40.jar' in your CLASSPATH. Read the release notes and install 'java40.jar' properly before restarting.

If the search applet does not work on your UNIX platform, try using the latest Netscape browser for the platform and add the Netscape Java Archive (JAR) file to your CLASSPATH environment variable. The path to the JAR file is in the directory in which you installed Netscape. For example:

```
CLASSPATH=mytools/netscape/communicator/program/java/classes/java40.jar
```

After you revise the CLASSPATH variable, exit Netscape and then restart Netscape in the updated environment. When you access the search page, the search feature should work properly.

BEA Developer Center

Visit the BEA Developer Center to obtain helpful resources that you might find useful in implementing eLink TCP applications. Additional development tools, ideas, and programming tips will continuously be added to this site, which we encourage you to visit often.

You can reach the BEA Developer Center at the following URL:

```
http://developer.bea.com/index.jsp
```

Contacting BEA Customer Support

If you have any questions about this version of eLink for Mainframe TCP, or if you have problems installing and running eLink for Mainframe TCP, contact BEA Customer Support through BEA WebSupport at 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 products you are using
- A description of the problem and the content of pertinent error messages