

Release Bulletin

Mainframe Connect™ Client Option for CICS 15.0

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1. Accessing current release bulletin information

A more recent version of this release bulletin may be available on the Web. To check for critical product or document information added after the product release, use the Sybase® Product Manuals Web site.

❖ **Accessing release bulletins at the Sybase Product Manuals Web site**

- 1 Go to Product Manuals at <http://www.sybase.com/support/manuals/>.
- 2 Select a product and language and click Go.
- 3 Select a product version from the Document Set list.
- 4 Select the Release Bulletins link.
- 5 From the list of individual documents, select the link to the release bulletin for your platform. You can either download the PDF version or browse the document online.

2. Product summary

Enclosed is Mainframe Connect Client Option for CICS 15.0, which is a programming environment that enables you to develop mainframe client applications that access LAN (UNIX and Windows) applications and data.

The Client Option for CICS 15.0 runs on an IBM z/Series or plug-compatible mainframe computer. It uses the LU 6.2 or TCP/IP communications protocol and a CICS host transaction processor.

2.1 Hardware and software requirements

The following hardware and software are compatible with the Client Option for CICS 15.0:

- Hardware:
 - IBM mainframe: z/Series or plug-compatible
- Software:
 - IBM z/OS version 1.7 or later
 - CICS Transaction Server 2.1 or later
 - IBM TCP/IP

For planning, installation, and configuration information, see the Mainframe Connect Client Option for CICS *Installation and Administration Guide*.

2.2 Product media

Table 1 lists the Client Option for CICS 15.0 distribution media.

Table 1: Client Option for CICS 15.0 media

Media title	Media ID
Mainframe Connect Client Option for CICS 15.0	CD68187-55-1500-01
Mainframe Connect Getting Started CD	CD00222-55-1500-01
Mainframe Connect SyBooks™ CD	CD30045-55-1500-01

Note For directory and file information, see the *MEMLIST* member of the *JCL* data set for your Client Option 15.0 installation.

2.3 Product documentation

Table 2 lists all documentation for the Client Option for CICS 15.0. Although not all documents are shipped as paper copy, all documents are available on the Web and on the Getting Started CD or the SyBooks CD.

Table 2: Client Option for CICS 15.0 documentation

Document title	Document ID
Mainframe Connect Client Option for CICS <i>Installation and Administration Guide</i>	DC34012-01-1500-01
Mainframe Connect <i>New Features</i>	DC00182-01-1500-01
Mainframe Connect <i>Overview Guide</i>	DC37572-01-1500-01
Mainframe Connect Client Option <i>Programmers Reference for C</i>	DC35396-01-1500-01
Mainframe Connect Client Option <i>Programmers Reference for COBOL</i>	DC36470-01-1500-01
Mainframe Connect Client Option <i>Programmers Reference for PL/I</i>	DC36460-01-1500-01
Mainframe Connect Client Option and Server Option <i>Messages and Codes</i>	DC36450-01-1500-01
Mainframe Connect Client Option for CICS <i>Release Bulletin</i> (this document)	DC71770-01-1500-01

3. Special installation instructions

This section describes instructions for installing Mainframe Connect Client Option for CICS 15.0.

3.1 Registering the product license

This product requires a permanent authorization key. However, a temporary key that is valid for 30 days has been included within the order at installation time. To avoid interruption of operations, within those 30 days, call Customer Service at 1-800-8Sybase, (1-800-879-2273) select Option 3, and select Option 3 again to request a permanent key.

Be prepared to provide this information:

- Product name
- Order number
- Your machine type
- CPU Serial number of the machine
- Valid e-mail address.

Within seven business days, Sybase will send a permanent key to you by e-mail. Then, to register the product license, define the license key in the JCL member *IxHOST*, and run the SYGWXCPH configuration.

4. Changed functionality in this version

For information on new features and functionality in the Client Option for CICS 15.0, see *Mainframe Connect New Features* (DC00182-01-1500-01).

4.1 CICS Sockets Interface for TCP/IP

The Mainframe Connect Client and Server Options for CICS now use the IBM CICS Sockets Interface exclusively for all TCP/IP communications. To install and configure this interface, refer to the installation guides.

5. Known issues

The following section describes known issues in the Client Option for CICS.

5.1 Client Option converts incoming datatypes

(CR #456084) On receive, the Client Option automatically converts the Adaptive Server® Enterprise datatypes varchar and varbinary to the datatypes CS-VARCHAR and CS-VARBINARY, respectively. When an application program binds and receives data in either a CS-VARCHAR or CS-VARBINARY host variable, allow for the “LL” length field that precedes the actual data when you define the host-variable length and process the data.

5.2 CTBFETCH and numeric datatype return values

(CR #474154) If a client application calls CTBFETCH for a numeric datatype, and the return value is null, the length field incorrectly returns two, instead of zero. If the application relies on the length value, without checking for a null, it may abnormally end.

6. Product compatibilities

For full functionality with the current release, use these Sybase products, as available at your site:

Table 3: Mainframe Connect Option release compatibility

Component	Release level
Mainframe Connect Client Option	15.0
Mainframe Connect Server Option	15.0
Mainframe Connect DB2 UDB Option	15.0
Mainframe Connect DirectConnect for z/OS Option	15.0

7. Documentation updates and clarifications

This section contains updates and clarifications for the Mainframe Connect product manuals.

7.1 Unicode support

The current version of the Client Option for CICS contains support for Unicode based on the Unicode support provided by IBM z/OS, including the conversion environment and conversion services. With the conversion environment and services installed and set up, the Client Option can convert character streams from one Coded Character Set Identifier (CCSID) to another. This support is provided in addition to the support for language and character sets offered in previous versions.

For details on Unicode, refer to IBM documentation.

7.1.1 Using the IBM z/OS conversion environment and services

❖ Installing Unicode support

- 1 Create an *IMAGE* member in *SYS1.PARMLIB* using the CUNMIUTL utility.
- 2 Copy the *CUNIMG01* member from *WORK.IMAGE* to *SYS1.PARMLIB*.
- 3 The *CUNIMG01* member is loaded into z/OS using the SET UNI=01 command.
- 4 The DISPLAY UNI, ALL command displays the current active image and the character set conversions defined for that image.

To enable Unicode support, set the USEIBMUNICODE configuration parameter to Y. The USEIBMUNICODE is specified in the SYGWMCSST macro in the SYGWXCPH customization module. The Client Option uses the newly defined unichar, univarchar, and unitext internal datatypes and performs conversions between UTF-8, UTF-16, and other CCSIDs.

For information on installing Unicode support for IBM z/OS, see “Support for Unicode Using Conversion Services” (SA22-7649-01).

7.1.2 SYGWXCPH customization module

The character set translation routines in the Client Option use tables in the SYGWXCPH customization module for the conversion of character sets. IBM Unicode support requires the CCSIDs of the character sets involved in conversion, so the translation tables in the SYGWXCPH customization module and the SYGWMCSXL macro have been modified to contain CCSIDs.

SYGWMCST

The USEIBMUNICODE parameter has been added to the SYGWMCST customization macro. The following are valid values for the USEIBMUNICODE parameter:

- Y – Use IBM support for character set conversions.
- N – Use the original Client Option support.

SYGWMCXL

The SYGWMCXL macro has been modified to include the following parameters, which are used for character conversion:

- CCSID – the CCSID for the character set.
- CHARSETTYPE – the character set type. A indicates ASCII, and E indicates EBCDIC.
- CHARSIZE – the maximum length of a character, between 1 and 4 bytes.
- PAD – the padding character. This parameter value depends on the type of character set. For ASCII, the padding character is 20. For EBCDIC, the padding character is 40.

Example 1

```
SYGWMCXL TYPE=ENTRY,  
          CHARSET=cp939,CHARSETBYTES=D,  
          CCSID=939,CHARTYPE=E,CHARSIZE=2,PAD=40
```

Example 2

```
SYGWMCXL TYPE=ENTRY,  
          CHARSET=Russian,CHARSETBYTES=S,  
          CCSID=1025,CHARTYPE=E,CHARSIZE=1,PAD=40
```

7.1.3 Datatypes for Unicode support

Components of Mainframe Connect have two new datatypes using the UTF-16 encoding of the Unicode character. The new unichar and univarchar datatypes are independent of the existing char and varchar datatypes but behave similarly. Like the char datatype, unichar is a fixed-width, non-nullable datatype. Like the varchar datatype, univarchar is a variable-width, nullable datatype. Each unichar or univarchar character requires 2 bytes of storage, so a unichar or univarchar column consists of 16-bit Unicode values.

Note Components of Mainframe Connect also have a unitext datatype defined, but there is no special support for it.

7.1.4 Unicode support in the Client Option for CICS

The unichar, univarchar, and unitext datatypes have been added for Unicode support in the Client Option. These three datatypes are mapped to TDS_LONGBINARY with a user type of 34, 35, or 36, as shown in Table 4.

Table 4: Unicode datatype mappings

SQL datatype	TDS datatype	User type	Comment
unichar	TDS_LONGBINARY	34	Fixed-length UTF-16 data
univarchar	TDS_LONGBINARY	35	Variable-length UTF-16 data
unitext	TDS_LONGBINARY	36	UTF-16 encoded data

The Client Option has the following three datatypes to support unichar, univarchar, and unitext:

- CS_UNICHAR_TYPE – Internal type 21
- CS_UNIVARCHAR_TYPE – Internal type 22
- CS_UNITEXT_TYPE – Internal type 23

Note Currently, there is no special support for CS_UNITEXT_TYPE.

The following API calls have been changed in the Client Option to accommodate support for Unicode:

- CTBCONPROPS
- CTBDESCR
- CTBBIND
- CTBFETCH

Note COBOL API names are used here to illustrate use. The C API names are different but behave the same as those for COBOL.

CTBCONPROPS

The CHARSETCNV property of the CTBCONPROPS API call is used to change the default character set sent to the server at login. The CHARSETCNV is a login property and must be specified before a connection is established for its value to be effective. If the value of the CHARSETCNV property is not specified before the CTBCONNECT API call, the connection is established with the default communication character set, iso_1.

The following properties are new for the CTBCONPROPS API call:

- CS_CLIENT_CCSD – defines the CCSID to which the Client Option converts server data.
- CS_SERVER_CCSD – defines the CCSID to which the Client Option converts client data.
- CS_PROG_CCSD – controls the conversion of data from the client character set to the character set used by the client application program. For example, a client application program may use CCSID=500 while the client data, received from the server, is in UTF-8.
- CS_DATA_CCSD – controls the conversion of metadata.

CTBCONPROPS may specify values for these properties any time after a connection has been established. The default values for these properties depend on the character set established for the connection at login.

Note For a connection established with the UTF-8 character set, the default values for the CS_CLIENT_CCSD, CS_SERVER_CCSD, CS_PROG_CCSD, and CS_DATA_CCSD parameters are 1208, 1208, 500, and 500, respectively.

Example 1

The following COBOL example changes the login character set from the default iso_1 to UTF-8:

```
MOVE 'utf8' to CHARSET.
MOVE 4 to BUFLen.

CALL 'CTBCONPR' USING CON RET-CODE CS-SET
CS-CHARSETCNV CHARSET BUFLen CS-FALSE OUTLEN.
```

Thereafter, the Client Option automatically converts all character datatypes to and from UTF-8, unless otherwise specified.

Example 2

The following COBOL example illustrates how the value of CS_PROG_CCSD can be changed from 500 to 1208:

```
05 PF-CCSID          PIC S9(9) COMP VALUE +0.
05 PF-CCSID-SIZE     PIC S9(9) COMP VALUE +4.
.....
MOVE 1208 TO PF-CCSID.
CALL 'CTBCONPR' USING CSL-CON-HANDLE
                        CSL-RC
                        CS-SET
                        CS-PROG-CCSID
                        PF-CCSID
```

PF-CCSID-SIZE
CS-FALSE
OUTLEN.

Thereafter, all program data is presented to the application in UTF-8 as it is received by the Client Option.

Note The Client Option does not reset any CCSID property values set by an application program. After an application changes a CCSID property value, the setting remains for all API calls until it is reset by the application.

CTBDESCR

The CTBDESCR API call now returns CS_UNICHAR_TYPE, CS_UNIVARCHAR_TYPE, and CS_UNITEXT_TYPE instead of CS_LONGBINARY_TYPE when the user type is 34, 35, or 36, respectively.

CTBBIND

The CTBBIND API call allows the implicit conversion between the CS_UNICHAR, CS_UNIVARCHAR, and CS_UNITEXT datatypes and the CS_CHAR, CS_VARCHAR, and CS_TEXT datatypes. The CCSIDs used in this conversion are 1200 (UTF-16) and CS_PROG_CCSID (the CCSID used by the client application).

CTBFETCH

The CTBFETCH API call automatically converts incoming CS_UNICHAR, CS_UNIVARCHAR, and CS_UNITEXT data to the datatype specified by CTBBIND.

7.2 Client Option and Server Option application programs re-link

The Client Option for CICS and Server Option for CICS versions 12.50.01 and 12.50.02 changed the SYGWCAAC, SYGWCAAS, SYGWCACC, and SYGWCACS user application stubs. These stubs are linked with the Client Option for CICS or Server Option for CICS user application programs. These application programs must be re-linked if any of the following situations apply:

- EXEC CICS HANDLE CONDITION conditions are handled incorrectly in application programs.

- Application programs are running under any version of z/OS after having been migrated from OS/390.
- There is insufficient CICS storage (below 16Mb).

Note You do not need to re-link existing Client Option for CICS or Server Option for CICS applications with the 15.0 version if you have already re-linked with version 12.50.02.

7.3 API return code

The following information applies to Mainframe Connect Client Options and Mainframe Connect Server Options *Programmers Reference* guides.

Mainframe Connect 12.6 introduced the following API return code.

```
-275 (TDS_LICENSE_CHECK_FAIL
```

Description: This return code is issued when the product license information is found to be incorrect:

Action: Update the SYGWLKEY macro in the SYGWXCPH table with a valid license key.

8. Technical support

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you have any questions about this installation or if you need assistance during the installation process, ask the designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

9. Other sources of information

Use the Sybase Getting Started CD, the SyBooks™ CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.
- The SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.

Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.

- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Sybase Product Manuals Web site, go to Product Manuals at <http://www.sybase.com/support/manuals/>.

9.1 Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

❖ Finding the latest information on product certifications

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Click Certification Report.
- 3 In the Certification Report filter select a product, platform, and timeframe and then click Go.
- 4 Click a Certification Report title to display the report.

❖ Finding the latest information on component certifications

- 1 Point your Web browser to Availability and Certification Reports at <http://certification.sybase.com/>.

- 2 Either select the product family and product under Search by Base Product; or select the platform and product under Search by Platform.
 - 3 Select Search to display the availability and certification report for the selection.
- ❖ **Creating a personalized view of the Sybase Web site (including support pages)**
- Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.
- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
 - 2 Click MySybase and create a MySybase profile.

9.2 Sybase EBFs and software maintenance

- ❖ **Finding the latest information on EBFs and software maintenance**
- 1 Point your Web browser to the Sybase Support Page at <http://www.sybase.com/support>.
 - 2 Select EBFs/Maintenance. If prompted, enter your MySybase user name and password.
 - 3 Select a product.
 - 4 Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as a Technical Support Contact. If you have not registered but have valid information provided by your Sybase representative or through your support contract, click Edit Roles to add the “Technical Support Contact” role to your MySybase profile.
 - 5 Click the Info icon to display the EBF/Maintenance report, or click the product description to download the software.

10. Accessibility features

This document is available in an HTML version that is specialized for accessibility. You can navigate the HTML with an adaptive technology such as a screen reader, or view it with a screen enlarger.

Mainframe Connect Client Option for CICS and the HTML documentation have been tested for compliance with U.S. government Section 508 Accessibility requirements. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

The online help for this product is also provided in HTML, which you can navigate using a screen reader.

Note You might need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.

For information about how Sybase supports accessibility, see Sybase Accessibility at <http://www.sybase.com/accessibility>. The Sybase Accessibility site includes links to information on Section 508 and W3C standards.