



APIs by Example: Data Conversion APIs

[System iNetwork Programming Tips Newsletter](#)

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Thu, 04/26/2001 (All day)

This installment of APIs by Example shows how to use the National Language Support Data Conversion APIs. Since the sample RPG IV program CBX0041 is too large for this newsletter, you can view it at

<http://www.as400network.com/code/clubtechcode/CBX0041.txt> (Program CBX0041 may not be available immediately. Please check back.)

Program CBX0041 converts an OfficeVision document located in QDLS and returns the converted text in a string. CBX0041 is limited to converting documents 32,767 bytes or smaller and isn't comparable to commercial OfficeVision conversion programs. The program does, however, show how to use the conversion APIs and gives you a starting point to write more sophisticated conversion programs.

CBX0041 identifies and applies or ignores the following DCS-RFT instructions found in OfficeVision documents:

Attr.	Instruction
x'3A'	New page
x'15'	Line feed automatic
x'06'	Line feed controlled
x'0C'	Page end
x'05'	Tabulate
x'41'	Fixed space

Here are program CBX0041's calling parameters:

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Parameters:
PxPthNam      INPUT
Document path name specified as:
foldername/.../documentname (Note: Do not specify a preceding '/')

PxDocTxt      OUTPUT
Returns the body text retrieved from the specified office document in
the form of an array. If a retrieved line is longer than the array
entry length, truncation will occur. To avoid truncation, redefine
entry length accordingly and adjust array dim() to fit a current
maximum of 32767 bytes.

PxRtnCod      OUTPUT
Code set to indicate the return state of the requested document
retrieval:

0      No error occurred
-1     Undefined error      - no text returned
-2     Line length error    - text truncated
-3     Conversion error     - text not converted
```

There are five main steps performed by program CBX0041:

- a. The specified document is opened.
- b. The document is read into the data buffer parameter.
- c. The document text is identified and extracted.
- d. The document codepage is compared to the current job CCSID, and if necessary a text conversion is performed:

- * a conversion descriptor is opened
 - * the conversion is performed
 - * the conversion descriptor is closed
- e. The opened document file is closed.

The National Language Support data conversion APIs used in program CBX0041 include

* Code conversion (QtqIconvOpen)

Initializes conversion as described by the to- and fromcode parameters and then returns the conversion descriptor to be used by the iconv function.

<http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/OTOICONV.htm>

* Code conversion (Iconv)

Converts the buffer specified by the inbuf parameter as defined by the conversion descriptor. All parameters are updated on return to reflect the progress of the conversion.

<http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/iconv.htm>

* Code conversion deallocation (Iconv_close)

Closes the conversion descriptor and frees resources allocated.

<http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/iconvcls.htm>

The HFS file APIs used in program CBX0041 include

* Open stream file (QHFOPNSF)

Opens and optionally creates a streamfile. Can also be used to check whether the file exists.

<http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/qhfopnsf.htm>

* Read stream file (QHFRDSF)

Reads a specified number of bytes from a stream file. The file pointer is automatically increased by the number of bytes read. <http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/qhfrdsf.htm>

* Close stream file (QHFCLOSF)

Closes the stream file and releases any locks held.

<http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/qhfclosf.htm>

The work management API used in program CBX0041 is

* Retrieve job information (QUSRJOBI)

Retrieves specific information about a job. The information is grouped in the various formats available.

<http://publib.boulder.ibm.com/pubs/html/as400/v5r1/ic2924/info/apis/qusrjobi.htm>

The above tip was written by Carsten Flensburg. For questions regarding this tip, contact Carsten at <mailto:flensburg@novasol.dk>.

Source URL: <http://iprodeveloper.com/rpg-programming/apis-example-data-conversion-apis>