

APIs by Example: TCP/IP Management APIs

[System iNetwork](#)
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Thu, 08/14/2003 (All day)

This week's API by Example from Carsten Flensburg provides program CBX105, which showcases three TCP/IP management APIs: Retrieve TCP/IP attributes (QtocRtvTCPA), List Network Connections (QtocLstNetCnn), and List Network Connection Data (QtocRtvNetCnnDta). CBX105 retrieves a list of current TCP/IP network connections, then retrieves information for each connection and prints it out to a report. The program also retrieves and prints a line for each servicing job associated with each network connection.

The earliest OS/400 release CBX105 runs on is V5R1. There were problems with the QtocRtvNetCnnDta API that have been fixed with the following PTFs:

VR51 SI09122
VR52 SI09175

Here's a truncated sample output from CBX105:

```
=====
8/12/03  22:01:57      Print TCP/IP connection status      Program: CBX105

Remote address - Port  Local address - Port Type Open State  Idle time ms
0.0.0.0          0    0.0.0.0          8479 *TCP PSV    LST      2812890470
  Connection job name: QNPSEVRD - user: QUSER      - number: 009342

206.71.122.180   1392 10.2.0.162          21 *TCP PSV    FIN2      121712
206.71.122.180   2740 10.2.0.162          23 *TCP PSV    EST       13668
  Connection job name: QPADEV0006 - user: DEVLUNDC - number: 010092
  Connection job name: QTVDEVICE - user: QTCP      - number: 009324

=====
```

Note that the bytes in and bytes out columns are not showing above, as the e-mail format is too narrow to show it.

Here's a list of the APIs and functions used in the program:

Retrieve TCP/IP Attributes (QtocRtvTCPA)
This API retrieves TCP/IP v4 and TCP/IP v6 stack attributes.
<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/qtocrtvtcpa.htm>

List Network Connections (QtocLstNetCnn)
This API returns a non-detailed list of all network connections or a subset of all network connections for a specified network connection type.
<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/qtoclstnetcnn.htm>

List Network Connection Data (QtocRtvNetCnnDta)
The QtocRtvNetCnnDta API retrieves detailed information about a specified IPv4 or IPv6 network connection – including jobs using the connection.
<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/qtocrtvnetcnnnda.htm>

List Fields (QUSLFLD)
This API generates a list of fields within a specified file record format name and places the list in a specified user space. You can use the QUSLFLD API only with database file types, such as *PF, *LF, and *DDMF, and device file

types, such as *ICFF and *PRTF.

<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/quslfd.htm>

Create User Space (QUSCRTUS)

This API creates a user space in either the user domain or the system domain.

<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/quscrtus.htm>

Retrieve Pointer to User Space (QUSPTRUS)

QUSPTRUS retrieves a pointer to the contents of a user-domain user space.

<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/qusptrup.htm>

Delete User Space (QUSDLTUS)

This API deletes user spaces created with the Create User Space (QUSCRTUS) API.

<http://publib.boulder.ibm.com/iserics/v5r2/ic2924/info/apis/qusdltus.htm>

You can obtain the RPG IV sample program CBX105 at

<http://www2.systeminetwork.com/noderesources/code/clubtechcode/TCPIPManageAPIs.zip>.

API QtocLstNetCnn was also mentioned in a previous newsletter item that described Bryan Dietz's free utility NStat, which uses QtocLstNetCnn. Details on the utility and how to obtain the source are available at

<http://www2.systeminetwork.com/article.cfm?ID=15777>.

The above source code 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-tcpip-management-apis>