CQG

CQG/NET Technical Specifications

September 16, 2014 | Version 2014-05

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About this Document

This document provides the information needed to understand computer and installation requirements; Internet connectivity; bandwidth use; and support of firewalls, proxies, and other software applications.

The most current version of this document is available at:
http://www.cqg.com/Docs/CQGNETTechSpec.pdf

Recent Publication History

Current document changes are in **red, bold font**.

Date	Version	Changes
September 16, 2014	2014-05	Removed Windows XP from supported operating systems. As of CQG IC version 15, a later version of Windows is required.
May 30, 2014	2014-04	Added Windows 8 to list of supported OS.
April 9, 2014	2014-03	Added note about the impact of Windows XP retirement on CQG IC to Computer Specifications.
February 13, 2014	2014-02	Added a network and updated two networks in Internet Communication. Added Tokyo to Pacific Rim Firewall Ranges. Added Tokyo to IP Addresses. Updated Chicago and New York Firewall Ranges.
January 6, 2014	2014-01	Updated Internet Communication, Name Resolution – DNS/Hostfile, and Singapore IP Addresses with new IP addresses.
October 22, 2013	2013-05	Added note that Windows 8 is currently being qualified for use with CQG products.
October 10, 2013	2013-04	Updated Internet Communication values, Pacific Rim firewall ranges, and Singapore IP addresses.

Customer Support

CQG Customer Support is available to help you. Call us at 1-800-525-1085 or e-mail us at websupt@cqg.com.

CQG Integrated Client

CQG Integrated Client has earned a solid reputation through decades of reliable performance, providing traders with an innovative trading interface complete with accurate global market data, professional analytical tools, and advanced order routing.

CQG/NET

CQG/NET provides additional levels of flexibility and robustness for CQG IC:

- CQG/NET allows each CQG client to log on and off at his or her convenience.
- CQG/NET delivers real-time data to each CQG client.
- CQG/NET permits a CQG client to access the server from any remote location that has access to the Internet.
- CQG/NET is architected to support redundant servers. If a single CQG/NET server fails, the CQG client's connection is transferred to an alternate CQG/NET server. An alternate server is always available.

CQG/NET uses the industry standard TCP/IP-based transport and name resolution services supported by Winsock 1.1. Data delivery is via TCP/IP over the Internet.

CQG/NET client software consists of 32-bit Windows® applications developed for Intel® X86 architecture computers.

Computer Specifications

These specifications are appropriate for single and dual monitor setups. If you have three or four monitors, you need a higher-performance processor, video card, and network connection.

Beginning with CQG IC version 15, CQG IC cannot be installed on PCs running the Windows XP operating system. CQG IC version 15 is due to be released in 2015.

	Minimum Requirements	**Recommended**
Operating System	Windows 8, Windows 7, Windows Vista, and ~~**Windows XP**~~ are supported*	64-bit Windows 7
Processor	Dual-Core. Intel Core 2 Duo (2.33GHz or better)	Intel Core i5 or i7
Memory	4GB RAM	6GB DDR3 SDRAM or more
Hard Drive	200GB, 7200RPM with 4GB of free hard disk space	128GB (or higher) solid state drive with 20% of free disk space
Video Card	Dual port graphics adapter with 128Mb of memory, 64Mb per port	1GB DDR3 or better

Internet Access: Internet service via a high-speed connection, such as DSL, cable, or fixed wireless/wireless local loop (WLL). Wireless internet connections not recommended, especially broadband over a wifi card. Dial up not supported.

System Setting Requirements: Hibernate and standby modes cannot be used on a system running CQG IC. Hard drive power-saving features should also be disabled.

*As of CQG IC version 15, a Windows version more recent than XP is required.

Bandwidth Utilization

CQG/NET requires approximately 20K bytes/sec sustained and an average 100K bytes/sec of additional bandwidth per user for burst mode. Optimal figures are 60K bytes/sec and 500K bytes/sec.

Because Ethernet performance degrades significantly when the network load exceeds 30%, the number of CQG clients per network segment should be limited to 60, given a normal distribution. CQG/NET would then consume approximately 2% of the available bandwidth, leaving sufficient reserve capacity for other network functionality.

Task	**Duration**	**Bandwidth Usage**
Startup	Short burst < 1 sec	30-50 kbps
	10-15 sec	3-5 kbps avg
Page change uncached, first time viewed	Short burst < 1 sec	5-30 kbps depending on page complexity
Page change cached, already viewed	Short burst < 1 sec	1-3 kbps
Page viewing	As long as page is displayed on screen	1-3 kbps avg sustained
Typical 10-min session including startup, shutdown, and multiple page changes	10 min	2-3 kbps avg

CQG Multiple-Monitor Services

CQG offers Dual Monitor Service, Triple Monitor Service, or Quad Monitor Service. Each additional monitor adds an additional amount of bandwidth usage, approximately equal to the figures shown in the above table. For example, a typical 10-minute session on a CQG system enabled for CQG Triple Monitor Service can be expected to use approximately 6-9 kbps averaged over the 10-minute period.

CQG Market Scan

A CQG/NET system utilizes additional bandwidth when a market scan is executed. Scans are user-initiated and can run from several seconds to several minutes, over which time they use an average of approximately 10-50 kbps. CQG's Market Scan Service is optional.

Internet Communication

Use	Protocol	Client Source Port	Server Destination Port
Client/server communication	TCP	System-assigned	2823, 443

- All traffic between CQG clients and servers use the TCP protocol. The UDP protocol is not used.
- All network connections between CQG clients and servers are initiated from the client side. No connections are initiated by the server.
- Destination port numbers at the server side are 2823 and 443 (CQG's registered port number).
- Source ports at the client side will always be system-assigned port numbers in the 1025-5000 range.
- User-specific secure information, such as passwords, are encrypted.
- Only one simultaneous connection per user is permitted.

Network	Subnet Bits	Subnet Mask	IP Range
8.18.160.0	24	255.255.255.0	8.18.160.0 to 8.18.160.255
64.208.51.0	24	255.255.255.0	64.208.51.1 to 64.208.51.254
66.77.164.128	26	255.255.255.192	66.77.164.129 to 66.77.164.190
67.152.7.0	24	255.255.255.0	67.152.7.1 to 67.152.7.254
114.31.92.64	27	255.255.255.224	114.31.92.65 to 114.31.92.94
118.201.11.192	26	255.255.255.192	118.201.11.193 to 118.201.11.254
183.91.40.24	29	255.255.255.248	183.91.40.25 to 183.91.40.30
203.192.64.128	25	255.255.255.128	203.192.64.129 to 203.192.64.254
208.48.16.0	24	255.255.255.0	208.48.16.1 to 208.48.16.254
216.219.76.64	26	255.255.255.192	216.219.76.65 to 216.219.76.126

CQG reserves the right to add or change, at any time, IP addresses within the ranges provided.

Name Resolution – DNS/Hostfile

CQG reserves the right to add or change IP addresses at any time.

Firewall Ranges

U.S.

Location	IP
Chicago	64.208.51.0/24 8.18.160.0 /24
Equinix	208.48.16.0 /24
New York	67.152.7.0/24
Qwest	66.77.164.128 /26

Europe

Location	IP
London	216.219.76.64 /26

Pacific Rim

Location	IP
Singapore	118.201.11.192 /26
Sydney	203.192.64.128 /25
Tokyo	114.31.92.64 /27

IP Addresses

Chicago

IP	Address
64.208.51.224	cqginchi001i.cqgnet.com
64.208.51.225	cqginchi002i.cqgnet.com
64.208.51.226	cqginchi003i.cqgnet.com
64.208.51.227	cqginchi004i.cqgnet.com
64.208.51.228	cqginchi005i.cqgnet.com
64.208.51.229	cqginchi006i.cqgnet.com
64.208.51.230	cqginchi007i.cqgnet.com
64.208.51.231	cqginchi008i.cqgnet.com
64.208.51.232	cqginchi009i.cqgnet.com
64.208.51.233	cqginchi010i.cqgnet.com
64.208.51.234	cqginchi011i.cqgnet.com
64.208.51.235	cqginchi012i.cqgnet.com
64.208.51.236	cqginchi013i.cqgnet.com
64.208.51.237	cqginchi014i.cqgnet.com
64.208.51.238	cqginchi015i.cqgnet.com
64.208.51.239	cqginchi016i.cqgnet.com
64.208.51.240	cqginchi017i.cqgnet.com
64.208.51.241	cqginchi018i.cqgnet.com
64.208.51.242	cqginchi019i.cqgnet.com
64.208.51.243	cqginchi020i.cqgnet.com
64.208.51.244	cqginchi021i.cqgnet.com
64.208.51.245	cqginchi022i.cqgnet.com

IP	Address
64.208.51.246	cqginchi023i.cqgnet.com
64.208.51.247	cqginchi024i.cqgnet.com
64.208.51.248	cqginchi025i.cqgnet.com
64.208.51.249	cqginchi026i.cqgnet.com
64.208.51.250	cqginchi027i.cqgnet.com
64.208.51.251	cqginchi028i.cqgnet.com
64.208.51.252	cqginchi029i.cqgnet.com
64.208.51.253	cqginchi030i.cqgnet.com

Hong Kong

IP	Address
183.91.40.27	cqginhk001ai.cqgnet.com
183.91.40.28	cqginhk001bi.cqgnet.com

London

IP	Address
216.219.76.112	cqginlon001i.cqgnet.com
216.219.76.113	cqginlon002i.cqgnet.com
216.219.76.114	cqginlon003i.cqgnet.com
216.219.76.115	cqginlon004i.cqgnet.com
216.219.76.116	cqginlon005i.cqgnet.com
216.219.76.117	cqginlon006i.cqgnet.com
216.219.76.118	cqginlon007i.cqgnet.com
216.219.76.119	cqginlon008i.cqgnet.com
216.219.76.120	cqginlon009i.cqgnet.com
216.219.76.121	cqginlon010i.cqgnet.com

IP	Address
216.219.76.122	cqginlon011i.cqgnet.com
216.219.76.123	cqginlon012i.cqgnet.com
216.219.76.124	cqginlon013i.cqgnet.com
216.219.76.125	cqginlon014i.cqgnet.com

New York

IP	Address
67.152.7.224	cqginnyc001i.cqgnet.com
67.152.7.225	cqginnyc002i.cqgnet.com
67.152.7.226	cqginnyc003i.cqgnet.com
67.152.7.227	cqginnyc004i.cqgnet.com
67.152.7.228	cqginnyc005i.cqgnet.com
67.152.7.229	cqginnyc006i.cqgnet.com
67.152.7.230	cqginnyc007i.cqgnet.com
67.152.7.231	cqginnyc008i.cqgnet.com
67.152.7.232	cqginnyc009i.cqgnet.com
67.152.7.233	cqginnyc010i.cqgnet.com
67.152.7.234	cqginnyc011i.cqgnet.com
67.152.7.235	cqginnyc012i.cqgnet.com
67.152.7.236	cqginnyc013i.cqgnet.com
67.152.7.237	cqginnyc014i.cqgnet.com
67.152.7.238	cqginnyc015i.cqgnet.com
67.152.7.239	cqginnyc016i.cqgnet.com
67.152.7.240	cqginnyc017i.cqgnet.com
67.152.7.241	cqginnyc018i.cqgnet.com
67.152.7.242	cqginnyc019i.cqgnet.com

IP	Address
67.152.7.243	cqginnyc020i.cqgnet.com
67.152.7.244	cqginnyc021i.cqgnet.com
67.152.7.245	cqginnyc022i.cqgnet.com
67.152.7.246	cqginnyc023i.cqgnet.com
67.152.7.247	cqginnyc024i.cqgnet.com
67.152.7.248	cqginnyc025i.cqgnet.com
67.152.7.249	cqginnyc026i.cqgnet.com
67.152.7.250	cqginnyc027i.cqgnet.com
67.152.7.251	cqginnyc028i.cqgnet.com
67.152.7.252	cqginnyc029i.cqgnet.com
67.152.7.253	cqginnyc030i.cqgnet.com

Qwest through Equinix

IP	Address
208.48.16.224	cqginqwc001i.cqgnet.com
208.48.16.225	cqginqwc002i.cqgnet.com
208.48.16.226	cqginqwc003i.cqgnet.com
208.48.16.227	cqginqwc004i.cqgnet.com
208.48.16.228	cqginqwc005i.cqgnet.com
208.48.16.229	cqginqwc006i.cqgnet.com
208.48.16.230	cqginqwc007i.cqgnet.com
208.48.16.231	cqginqwc008i.cqgnet.com
208.48.16.232	cqginqwc009i.cqgnet.com
208.48.16.233	cqginqwc010i.cqgnet.com
208.48.16.234	cqginqwc011i.cqgnet.com
208.48.16.235	cqginqwc012i.cqgnet.com

IP	Address
208.48.16.236	cqginqwc013i.cqgnet.com
208.48.16.237	cqginqwc014i.cqgnet.com
208.48.16.238	cqginqwc015i.cqgnet.com
208.48.16.239	cqginqwc016i.cqgnet.com
208.48.16.240	cqginqwc017i.cqgnet.com
208.48.16.241	cqginqwc018i.cqgnet.com
208.48.16.242	cqginqwc019i.cqgnet.com
208.48.16.243	cqginqwc020i.cqgnet.com
208.48.16.244	cqginqwc021i.cqgnet.com
208.48.16.245	cqginqwc022i.cqgnet.com
208.48.16.246	cqginqwc023i.cqgnet.com
208.48.16.247	cqginqwc024i.cqgnet.com
208.48.16.248	cqginqwc025i.cqgnet.com
208.48.16.249	cqginqwc026i.cqgnet.com
208.48.16.250	cqginqwc027i.cqgnet.com
208.48.16.251	cqginqwc028i.cqgnet.com
208.48.16.252	cqginqwc029i.cqgnet.com
208.48.16.217	cqginqwc030i.cqgnet.com
208.48.16.208	im.cqgnet.com

Singapore

IP	Address
118.201.11.205	cqginsng003i.cqgnet.com
118.201.11.206	cqginsng004i.cqgnet.com
118.201.11.207	cqginsng005i.cqgnet.com
118.201.11.208	cqginsng006i.cqgnet.com

IP	Address
118.201.11.211	cqginsng007ai.cqgnet.com
118.201.11.212	cqginsng008ai.cqgnet.com
118.201.11.213	cqginsng007bi.cqgnet.com
118.201.11.214	cqginsng08bi.cqgnet.com

Sydney

IP	Address
203.192.64.139	cqginsyd001i.cqgnet.com
203.192.64.140	cqginsyd002i.cqgnet.com
203.192.64.141	cqginsyd003i.cqgnet.com
203.192.64.142	cqginsyd004i.cqgnet.com
203.192.64.143	cqginsyd005i.cqgnet.com
203.192.64.144	cqginsyd006i.cqgnet.com
203.192.64.147	cqginsyd007ai.cqgnet.com
203.192.64.149	cqginsyd007bi.cqgnet.com
203.192.64.148	cqginsyd008ai.cqgnet.com
203.192.64.150	cqginsyd008bi.cqgnet.com

Tokyo

IP	Address
114.31.92.75	cqgintok001ai.cqgnet.com
114.31.92.76	cqgintok001bi.cqgnet.com
114.31.92.77	cqgintok002ai.cqgnet.com
114.31.92.78	cqgintok002bi.cqgnet.com

Firewalls and Proxies

Firewalls

CQG/NET supports the following firewall configurations:

- Network address translation
- Dynamically assigned ports on the client side

Proxies

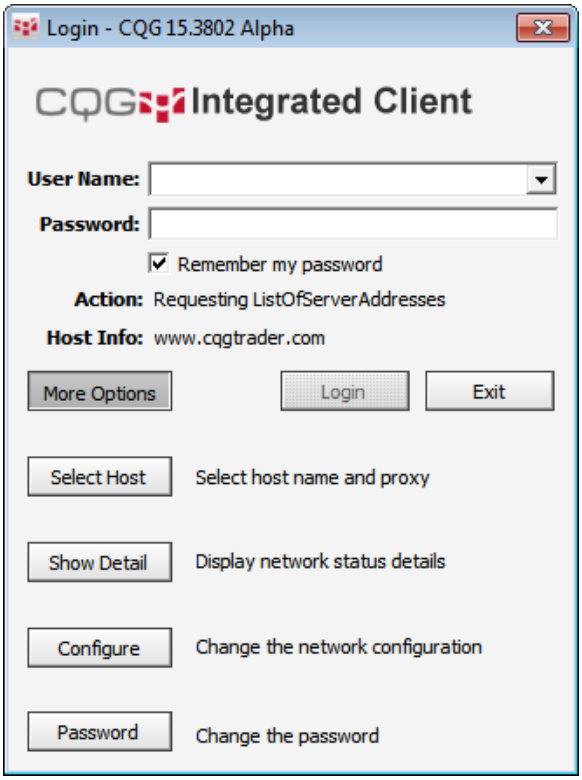
CQG/NET supports SOCKS 4, SOCKS 5, and HTTP proxy services as well as a Winsock redirector, such as Microsoft® Proxy Server 2.0.

Following the successful installation of CQG/NET, you must modify configuration settings in order to connect through a proxy server.

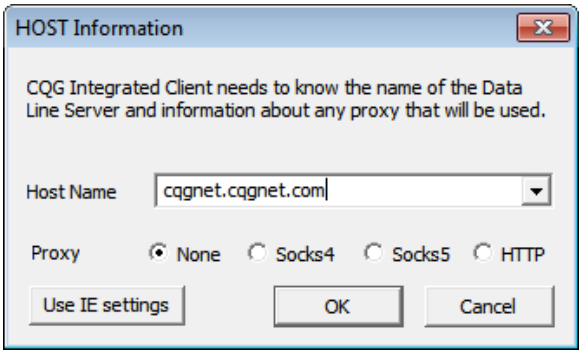
You can make these modifications using the software or by changing the INI files.

Updating Proxy Settings Using CQG/NET

1. Open the Login window.
2. Click the **More Options** button to display the **Select Host**, **Show Detail**, **Configure**, and **Password** buttons.



3. Click Select Host.
4. Select **Socks4**, **Socks5**, or **HTTP**, and define the proxy server host and port.



5. Click **OK** to exit the windows.

Updating Proxy Settings Using INI Files

CQG/NET can be configured to work through a proxy server by changing its configuration settings.

Proxy settings are defined in the [NETS] section of two INI files simultaneously and identically:

- cqg.ini (Private folder, by default \Documents and Settings\All Users\Documents\CQGNet\Private)
- cqgclnt.ini (CQGNet folder, by default \Documents and Settings\All Users\Documents\CQGNet)

Make sure that you are not logged on to CQG/NET when you modify the INI file.

Default values in the INI file are preceded by a colon (:). You should remove those colons when you change default values.

General proxy configuration

Key	Value	Description
ProxyType	<proxy_tag> one of: {SOCK4 | SOCKS5 | HTTP | None | <any_name>} default: None	1st (or only) proxy in chain. 'None' disables proxy. For example, to set up using a single SOCK4 proxy, specify SOCK4 here.
ProxyReplyTimeout	<integer number> default: 30	Timeout to get through the whole proxy chain.
ServerProxyHost	<string> must be valid domain name or IPv4	To be supported at a future date. Enables FX Trader-specific “last proxy in chain.” Works even if ProxyType = **None**.
ServerProxyPort	<number> default: 2824	To be supported at a future date. CQG/NET-specific port of server proxy.

Settings for specific proxy

Key	Value	Description
<proxy-tag>_Type	one of: { SOCK4 | SOCKS5 | HTTP | None }	Optional if <proxy-tag> is SOCK4, SOCK5, HTTP, or None.
<proxy-tag>_Host	<string> must be valid domain name or IPv4	Mandatory.
<proxy-tag>_DNS	one of: { 0 | 1 } default: 0	Optional. 0 = use standard DNS lookup 1 = use proxy for DNS lookup
<proxy-tag>_Port	<integer number>	Optional. Default is type-specific.
<proxy-tag>_User	<username>	Optional. Plaintext username for proxy authentication.
<proxy-tag>_Password	<password>	Optional. Plaintext password.
<proxy-tag>_UseFor	<match> (see below) default "*"	Optional. Defines matches for target host to use this proxy for. Applied to the TARGET host, not the next proxy in chain.
<proxy-tag>_DirectFor	<match> (see below) default ""	Optional. Defines matches for target host to SKIP this proxy for. Applied to the TARGET host, not the next proxy in chain.
<proxy-tag>_Next	<proxy_tag> one of: { SOCK4 | SOCKS5 | HTTP | None | <any_name> } default: None	Optional. Next proxy in the chain AFTER this proxy.
<proxy-tag>_DirectNext	<proxy-tag> default: same as <proxy-tag>_Next	Optional. Next proxy in the chain INSTEAD of this proxy. Used if proxy is skipped due to *_DirectFor match.

For example, to configure CQG/NET to use Socks 5 proxy at 172.24.3.144:3128, you should modify both cqqg.ini and cqgclnt.ini, so that they read:

```
[NETS]
ProxyType=SOCKS5
SOCKS5_Host=172.24.3.144
SOCKS5_Port=3128
```

Formal settings syntax definition

```
<separator> := ',' | ';' | ' ' | '\t'
<digit> := '0' - '9'
<char> := 'A'-'Z' | 'a'-'z' | <digit> | '.' | '-' | '+' | '_'
<string> := <char> { <char> }        # not empty string
<range> := '[' ( <string> | (<char> '-' <char>) ) ']'
<single-match> := { '*' | '?' | <char> | <range> }   # * means any string, ? means any char
<match> := <single-match> { <separator> <single-match> }
<host> := <string>           # must be valid domain name or IPv4
<port> := <digit> [ { digit } ]        # must be integer within 1-65535
<any-name> := <string>
<supported-type> := SOCK4 | SOCKS5 | HTTP | None <proxy-tag> := <supported-type> | <any-name>

# General proxy configuration
ProxyType=<proxy-tag>     # specifies 1st (or only) proxy in chain. 'None' disables proxy.
ProxyReplyTimeout=30     # timeout to get through the whole proxy chain
ServerProxyHost = <host>    # optional, enables mandatory 'last proxy in chain'. Works even 'None' proxy is
used.
ServerProxyPort= <port>    # optional, port of server proxy. default 2824


# Specific proxy configuration:

<proxy-tag>_Type = <supported-type> # optional if <proxy-tag> == <supported-type>
<proxy-tag>_Host = <host>    # mandatory
<proxy-tag>_Port = <port>    # optional, default is type-specific
<proxy-tag>_User = <username>   # optional, plaintext username for proxy authentication
<proxy-tag>_Password = <password>  # optional, plaintext password
<proxy-tag>_UseFor = <match>   # optional, defines matches for target host to use this proxy for. Default
"*"
```

```
<proxy-tag>_DirectFor = <match>  # optional, defines matches for target host to SKIP this proxy for.
Default ""
<proxy-tag>_Next = <proxy-tag>   # optional, next proxy in the chain AFTER this proxy. Default: None
<proxy-tag>_DirectNext = <proxy-tag> # optional, next proxy in the chain INSTEAD this proxy. Default: same
as *_Next
# .. used if proxy is skipped due to *_DirectFor match.

# *_UseFor and *_DirectFor are applied to the TARGET host, not to next proxy in chain.
```

Installation

Because CQG/NET is a real-time, mission-critical application, we recommend that it and the working directory be loaded on a local hard drive.

For best performance, we recommend setting the working directory to a file server and not running CQG/NET from an application server.

User-modified files are backed up daily by CQG.

You must register COM and ActiveX® components on the client system.

IMPORTANT: User permissions on the main CQG folder and all subfolders and files must be set to "Modify" or "Full Control." Installing CQG/NET on a restricted drive and assigning it limited permissions, such as "Read & Execute," impede performance and may prevent the CQG/NET from working at all.

Entitlements and Permissioning

CQG remotely manages entitlements associated with CQG/NET. Each user has a specific set of entitlements that are accurately reflected in CQG's monthly billing. CQG is able to flag customer accounts to prevent any unauthorized entitlement.

CQG/NET and Other Applications

The CQG/NET is DDE-compliant and can provide data to software, such as Excel® and Visual Basic®. CQG does not publish its data feed for general price databases.

CQG offers an API interface for use in third-party applications. For more information, visit our website.