



FineTech CME Gateway

User Manual

Installation – Pre Requisites



- Operating System
 - The gateway runs on Microsoft Windows. We recommend Windows Server 2012.
- .NET Framework
 - All components of the gateway require Microsoft .NET Framework 4.5. If you are running Windows Server 2012, this is already included.
 - The framework can be downloaded separately from <http://www.microsoft.com/en-us/download/details.aspx?id=30653>
- Internet Information Server
 - The gateway is controlled by a web application, CMEGWeb, that requires Microsoft Internet Information Server (IIS). It has been tested on IIS8.
 - IIS is not installed by default in Windows. To install IIS8 see <http://www.iis.net/learn/get-started/whats-new-in-iis-8/installing-iis-8-on-windows-server-2012>
 - CMEGWeb and the gateway can be on different machines.
 - One instance of CMEGWeb can control one gateway. Multiple instances of CMEGWeb can be installed on the same IIS instance, each controlling a separate gateway. The particular gateway is specified in the Web.Config file for each CMEGWeb instance.
 - To install CMEGWeb on IIS8 it is recommended to use Microsoft Web Deploy V3.5. This can be obtained from <http://www.iis.net/downloads/microsoft/web-deploy>
- Mongo
 - The gateway uses the Mongo database. Mongo can be downloaded for free from <http://www.mongodb.org/downloads>.
 - You can select from “Windows 64 bit” (if you have Server 2008R2 or later), “64 bit legacy” or “Windows 32 bit downloads” (not advised)

Installation – Mongo



- Each instance of the gateway should have a local installation of Mongo
- Extract the distribution Mongo ZIP file to C:\mongo\bin
- Create directories C:\mongo\data and C:\mongo\log
- Create a file called C:\mongo\mongod.cfg with the following content
 - logpath=c:\mongo\log\mongo.log
 - logappend=true
 - dbpath=c:\mongo\data
- C:\mongo\bin\mongod.exe --config C:\mongo\mongod.cfg --install
- NET START MongoDB

Installation - Gateway



- The gateway is delivered in a file named CMEG.V1.0.0.XX.CAB where XX is the version number.
- MKDIR C:\CMEGateway
- EXPAND CMEG.V.1.0.XX.CAB -F:*.* C:\CMEGateway
- SC CREATE CMEGateway binPath= C:\CMEGateway\CMEGateway.exe start= auto
- SC CREATE MDGateway binPath= C:\CMEGateway\MDGateway.exe start= auto
- The gateway requires a configuration file CMEGatewayConfig.xml in the same directory.

```
<?xml version="1.0" encoding="utf-8"?>
<CMEGatewayConfig xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
                    xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <WCFURL>net.tcp://127.0.0.1:5995/CMEGateway</WCFURL>
  <Database>127.0.0.1:CMEGatewayDB</Database>
  <Description>Staging</Description>
  <TKServer>ip:port</TKServer>
  <TKServerUsername>username</TKServerUsername>
  <TKServerPassword>password</TKServerPassword>
</CMEGatewayConfig>
```

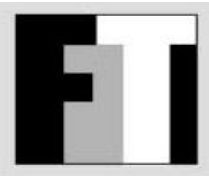
Configuration- Gateway



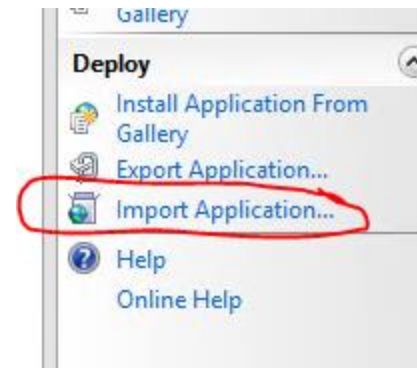
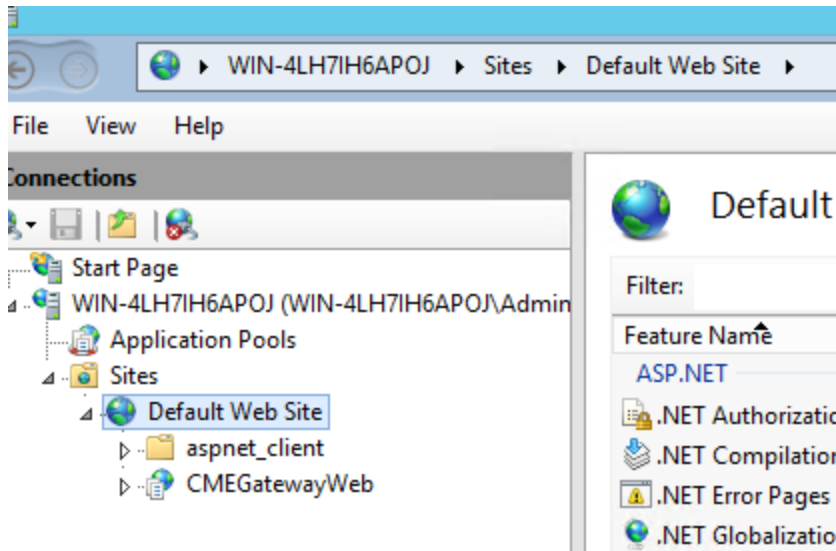
- The gateway configuration is in a file C:\CMEGateway\CMEGatewayConfig.xml with the following properties:

Property	Purpose
WCFURL	WCF connection for the Web site to control the gateway Example: net.tcp://127.0.0.1:5995/CMEGateway/
Database	Mongo database in the form server : databasename Example: 127.0.0.1:CMEGatewayDB
Description	Gateway description (appears on web site)
TKServer	FineTech market data server in the form ip : port
TKServerUsername	FineTech market data username
TKServerPassword	FineTech market data password

Installation – Web Site



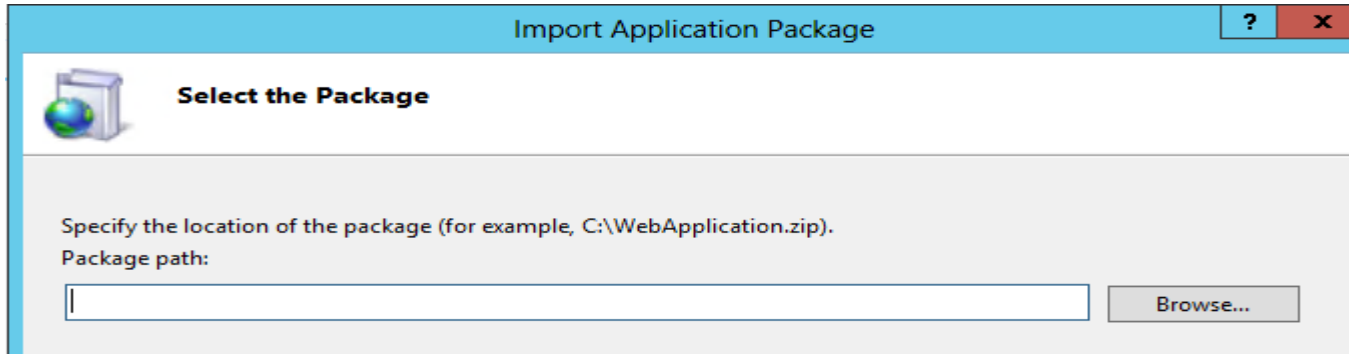
- Open the start page and type run, inetmgr
- Open the “Sites” tab and click “Default Web Site”
- Look at the “Actions” tab on the right and click “Import Application”. (If it is not there you need to install MS Deploy 3.5)



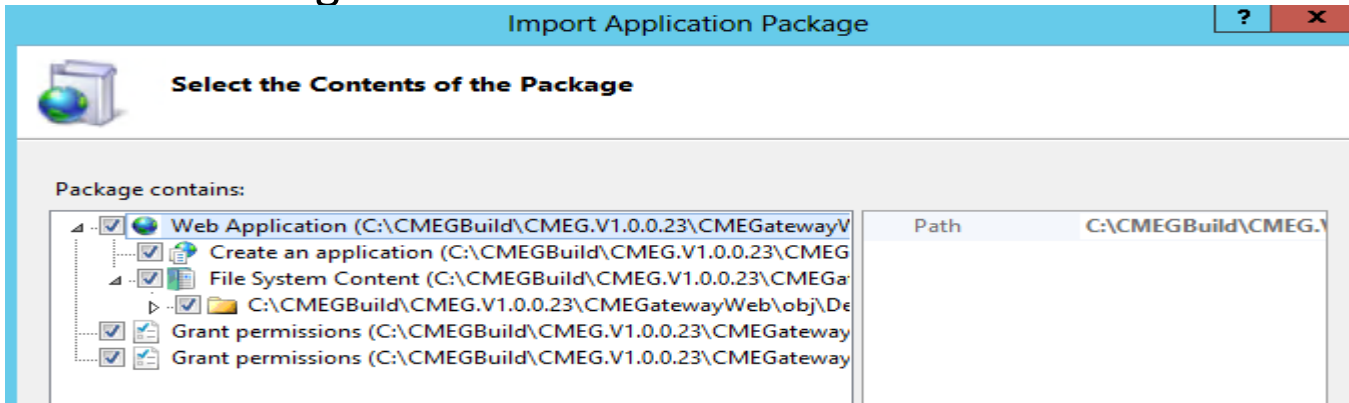
Installation – Web Site



- Enter the pathname to the CMEGWeb.V1.0.0.XX.ZIP file and click Next



- Click Next again



Installation – Web Site



- Type CMEGatewayWeb and click next

A screenshot of a Windows dialog box titled "Import Application Package". The dialog has a light blue header bar with a question mark icon and a close button (X). Below the header, there is a section titled "Enter Application Package Information" with a folder and globe icon. The main area contains the text "Enter information that is required to install this package:". Below this, there is a section titled "Application Path" with the instruction "Full site path where you want to install your application (for example, Default Web Site/Application).". A text input field is shown with the text "Default Web Site/" followed by a text box containing "CMEGatewayWeb".

- Modify the web.config file. This file can be found at C:\inetpub\wwwroot\CMEGatewayWeb
- Ensure this setting key exists (there can be only one appSettings section)

```
<appSettings>  
  <add key="CMEGatewayConfig" value="C:\CMEGateway\CMEGatewayConfig.xml"/>  
</appSettings>
```

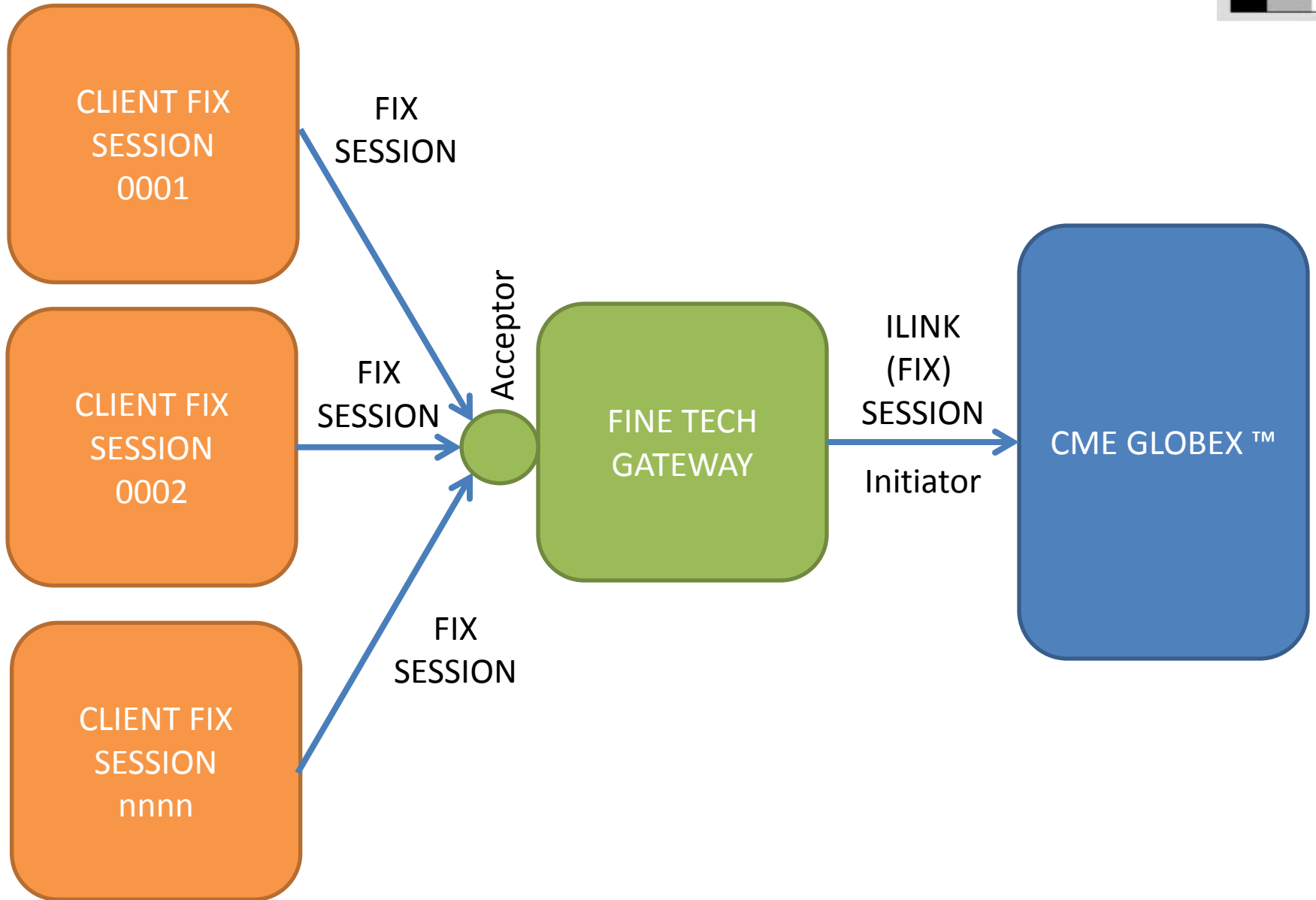
- Note: if you upgrade the web site, you have to make this change again

Start Gateway



- NET START CMEGATEWAY
- NET START MDGATEWAY

Gateway Architecture



Gateway Definitions



Client	A FIX connection from a trader to the Gateway
Initiator	A FIX connection to CME (ILINK connection)
Acceptor	A TCP socket on the gateway server that accepts incoming Client FIX sessions
Account	Each client is linked to an account for risk management purposes. One account can have multiple clients connected to it. Each client is linked to one and only one account.

Gateway Configuration



- Open a web browser and navigate to http://ip_address/CMEGatewayWeb
- If you installed the CMEGWWeb app on the same server as the gateway, use ip_address = 127.0.0.1
- The first time you will need to set a passphrase for the site. If the site encounters an error when this is done, you'll need to grant the user "DefaultAppPool" write access to "C:\inetpub\wwwroot\CMEGatewayWeb"
- This indicates success:

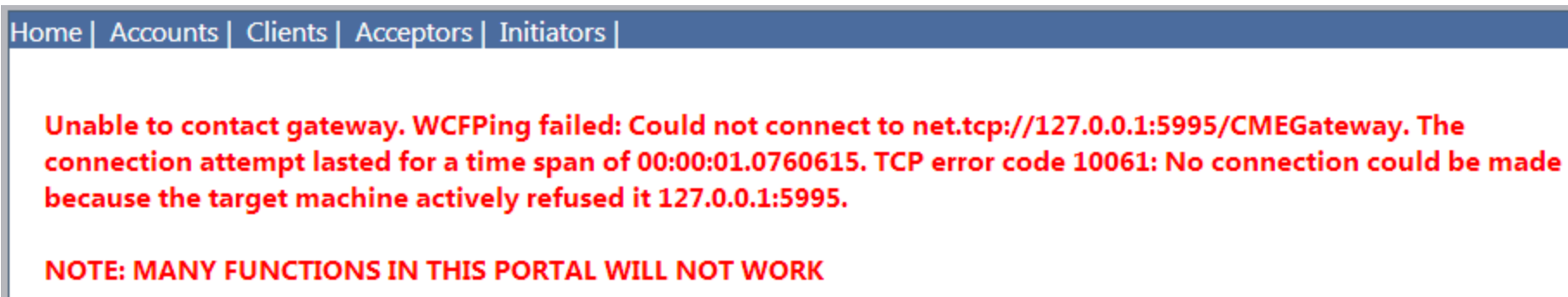
A screenshot of the CME Gateway web interface. The top navigation bar is blue with white text: Home | Accounts | Clients | Acceptors | Initiators. Below the navigation bar, the main content area is white. It displays the text: "CME Gateway v1.0.0.23 running on 'WIN-4LH7IH6APOJ' as 'WORKGROUP\SYSTEM' at: 2014-02-21 16:40:27". Below this, it says "Staging Portal v1.0.0.23".

Home | Accounts | Clients | Acceptors | Initiators |

CME Gateway v1.0.0.23 running on 'WIN-4LH7IH6APOJ' as 'WORKGROUP\SYSTEM' at: 2014-02-21 16:40:27

Staging Portal v1.0.0.23

- This indicates the gateway is down or a firewall is preventing connection:

A screenshot of the CME Gateway web interface showing an error. The top navigation bar is blue with white text: Home | Accounts | Clients | Acceptors | Initiators. Below the navigation bar, the main content area is white. It displays a red error message: "Unable to contact gateway. WCFPing failed: Could not connect to net.tcp://127.0.0.1:5995/CMEGateway. The connection attempt lasted for a time span of 00:00:01.0760615. TCP error code 10061: No connection could be made because the target machine actively refused it 127.0.0.1:5995." Below the error message, it says "NOTE: MANY FUNCTIONS IN THIS PORTAL WILL NOT WORK" in red.

Home | Accounts | Clients | Acceptors | Initiators |

Unable to contact gateway. WCFPing failed: Could not connect to net.tcp://127.0.0.1:5995/CMEGateway. The connection attempt lasted for a time span of 00:00:01.0760615. TCP error code 10061: No connection could be made because the target machine actively refused it 127.0.0.1:5995.

NOTE: MANY FUNCTIONS IN THIS PORTAL WILL NOT WORK

Gateway Configuration - Accounts



- Click the Accounts tab

The screenshot shows the 'Accounts' tab selected in the navigation menu. The page displays the CME Gateway version and the current user/session information. Below this, there are two buttons: 'New Account' and 'Download'. A table lists existing accounts with columns for 'Account ID' and 'Description'. Each row in the table has an 'Edit' button to its left.

Home **Accounts** Clients | Acceptors | Initiators |

CME Gateway v1.0.0.23 running on 'WIN-4LH7IH6APOJ' as 'WORKGROUP\SYSTEM' at: 2014-02-21 16:46:13

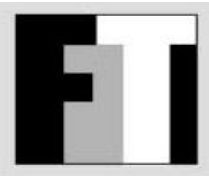
Staging Portal v1.0.0.23 > Accounts

New Account Download

	Account ID	Description
Edit	1	Test Account
Edit	JIM	JIM CHOI

- There has to be at least one account in the system.
- Click New Account to create a new one.
- Click Download to receive a CSV file of the existing accounts.
- Click Edit to edit account details

Gateway Configuration - Acceptors



- At least one acceptor has to be defined
- You can have more acceptors for different client groups if required
- Ensure Windows Firewall (and any other firewall you use) is configured to permit external connections to each acceptor. You can use IP address filtering if desired, or simply open the port to all.

[New Acceptor](#) [Download](#)

	Port	Enabled	Initialized	Started	Description				
Edit	5000	Y	Y	Y	Primary Acceptor	Enable	Disable	Start	Stop

- Click New Acceptor to create a new one.
- Click Download to receive a CSV file of the existing acceptors.
- Click Edit to edit acceptor details
- Start/Stop allow the acceptor to be shut down and restarted intraday
- If an acceptor is disabled it has to be enabled before it will start
- If an acceptor is enabled it will start automatically when the server starts

Gateway Configuration - Initiators



- An Initiator is a CME ILINK (FIX) session
- At least one Initiator must exist

	Enabled	SenderCompID	IP	Port	Password	Initialized	Started	Logged In						
Edit	Y	337004N	69.50.112.141	25936	3U7	Y	Y	N	Enable	Disable	Orders	Start	Stop	Error Log
Edit	Y	303004N	69.50.112.142	42047	8Q3	Y	Y	N	Enable	Disable	Orders	Start	Stop	Error Log
Edit	Y	K23004N	69.50.112.138	41714	K28	Y	Y	N	Enable	Disable	Orders	Start	Stop	Error Log
Edit	Y	P74004N	69.50.112.142	42045	P74	Y	Y	N	Enable	Disable	Orders	Start	Stop	Error Log

- Click New Initiator to create a new one.
- Click Download to receive a CSV file of the existing initiators.
- Click Edit to edit initiator details
- Start/Stop allow the initiator to be shut down and restarted intraday
- If an initiator is disabled it has to be enabled before it will start
- If an initiator is enabled it will start automatically when the server starts
- The Error Log button shows reject messages returned from CME (or sent to it)

Gateway Configuration - Clients



- A client is a single incoming client FIX session

	Enabled	Logged In	Acceptor Port	Client CompID	Password	Initiator (CME) CompID	Account	Description			
Edit	N	N	5000	AAAA	12345	307004N	1	Test Account 1	Enable	Disable	Error Log
Edit	N	N	5000	BBBB	12345	K20004N	1	Test Account 2	Enable	Disable	Error Log
Edit	Y	N	5000	CRT1	12345	507004N	1	CERT - 1	Enable	Disable	Error Log
Edit	Y	N	5000	CRT2	12345	507004N	1	CERT - 2	Enable	Disable	Error Log

- Click New client to create a new one.
- Click Download to receive a CSV file of the existing client.
- Click Edit to edit client details
- If a client session is disabled the client is logged out and cannot log back in
- The Error Log button shows reject messages relating to the client
- The client Comp ID must be exactly 4 (four) characters
- The password is specified by the client when logging in

Gateway Management



- The management menu appears on the home screen

CME Gateway v1.0.0.23 running on 'WIN-4LH7IH6APOJ' as 'WORKGROUP\SYSTEM' at: 2014-02-21 19:07:05

Staging Portal v1.0.0.23

FINETECH CME GATEWAY OPENING MENU

[Logout](#)

[Trades](#)

[Orders](#)

[Positions](#)

[Send Log](#)

Gateway Management - Trades



- The Trades screen allows executed deals to be viewed and downloaded using a combination of filters.
 - CME Comp ID (Initiator)
 - Client Comp ID
 - Account
 - Trade Date
- Click Refresh to reload the display grid.

Staging Portal v1.0.0.23 > Trades

CME Comp ID * Client Comp ID * Account ID * Trade Date *

Trades = 4

Initiator	Client	Account	Side	Qty	SecurityDesc	Price	ClOrdID	TransactTime
3U7004N	CRT1	1	Sell	1	GCJ4	13179	2201717160003	20140220-23:19:46.416
3U7004N	CRT1	1	Sell	1	GCJ4	13175	2201717160006	20140220-23:24:58.130
3U7004N	CRT1	1	Sell	1	GCJ4	13174	2201717160007	20140220-23:25:00.560
3U7004N	CRT1	1	Sell	1	GCJ4	13176	2201717160008	20140220-23:25:01.899

Gateway Management - Positions



- The Positions tab looks at positions by account
- Select the account and trade date and Refresh

Account ID Trade Date

Absolute Positions

Security Desc	Client
GCJ4	-4

Open Positions

Side	Open Qty	Security Desc	Price
Sell	1	GCJ4	13179
Sell	1	GCJ4	13175
Sell	1	GCJ4	13174
Sell	1	GCJ4	13176

Closed Positions

- Click the download button to load the relevant grid to the browser as a CSV file



End of Document