



**THE FOUNDATION  
FOR SECURE  
MARKETS<sup>SM</sup>**

ENCORE DDS Guide – Developer Reference  
Risk Based Haircuts / Customer Portfolio Margining  
(RBH/CPM)

Version 1.9  
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Reasonable measures are taken by OCC to ensure the accuracy of the information it distributes in its DDS program. This information is produced from data received from a number of different sources, which are believed to be reliable. However, due to the number of sources for such data, the possibility of human error, and the risks inherent in electronic distribution, there may be omissions or inaccuracies in such information and delays or interruptions in providing it. Accordingly, OCC disclaims all express or implied warranties with respect to the information distributed in its DDS program, including any warranty of merchantability or fitness for a particular purpose. Further, information sent on a real time basis should not be considered final until OCC issues an end of day message advising no additional transmissions will be made on a particular business day.

To read DDS FIXML messages, OCC recommends using an XML parser that adheres to the W3C\* 1.0 and 1.1 XML recommendations and not the byte by byte method typically used for “flat file” parsing. In order to support new future business needs, OCC reserves the right to add at any time previously unused tags, which are already part of the FIXML schema, to the DDS FIXML messages. If the parsing mechanism recommended above will be used, the addition of new tags will have no impact on the programs that read in the DDS FIXML messages.

For the following cases:

- addition of new tags which are not part of the FIXML schema
- addition of new enumerations which are not part of the FIXML schema
- addition of previously unused enumerations which are part of the FIXML schema
- decommission/removal of existing required tags

OCC will notify designated contacts in advance of their implementation. When needed, updated schemas will be made available, in advance, on the OCC website.

\* - The World Wide Web Consortium (W3C) is an international consortium where Member organizations, a full-time staff, and the public work together to develop Web standards.

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## Introduction

OCC provides FIXML Risk Based Haircut/Customer Portfolio Margin (RBH/CPM) output files for nightly download.

If you have questions or comments, please contact your Member Services representative or the OCC Help Desk at one of the following:

800-621-6072 or 800-544-6091 (U.S.)

800-424-7320 (Canada)

312-322-6200 (outside U.S.)

memberservices@theocc.com

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## Document Organization

This guide provides the FIXML record layout, message structures, samples and data service mappings for each Risk Based Haircut transmission.

The following Security List messages are defined in this guide:

- Default
- Portfolio Group
- Product Group
- Class Group
- Basket ID
- RBH/CPM Product
- RBH/CPM Series/Contract

## DDS Subscription Details

Users of the FIXML files can elect which of the below files they wish to receive. The files must be received independently.

- **RBH/CPM Parameters File (Non Proprietary):** Contains all defaults, all portfolio groups, all product groups, all class groups, and all basket IDs. All RBH/CPM Subscribers must receive this transmission.
- **RBH/CPM Theoreticals File (Non Proprietary):** Contains theoreticals for all RBH/CPM included products and series/contracts.
- **OTC Theoreticals File (Proprietary):** Contains theoreticals for OCC-cleared OTC products and OTC series for which the subscriber holds a position.

## Data Distribution Services Overview

This reference document provides an overview of the Data Distribution Services (DDS) system and contains the design concepts and the data delivery services offered by OCC.

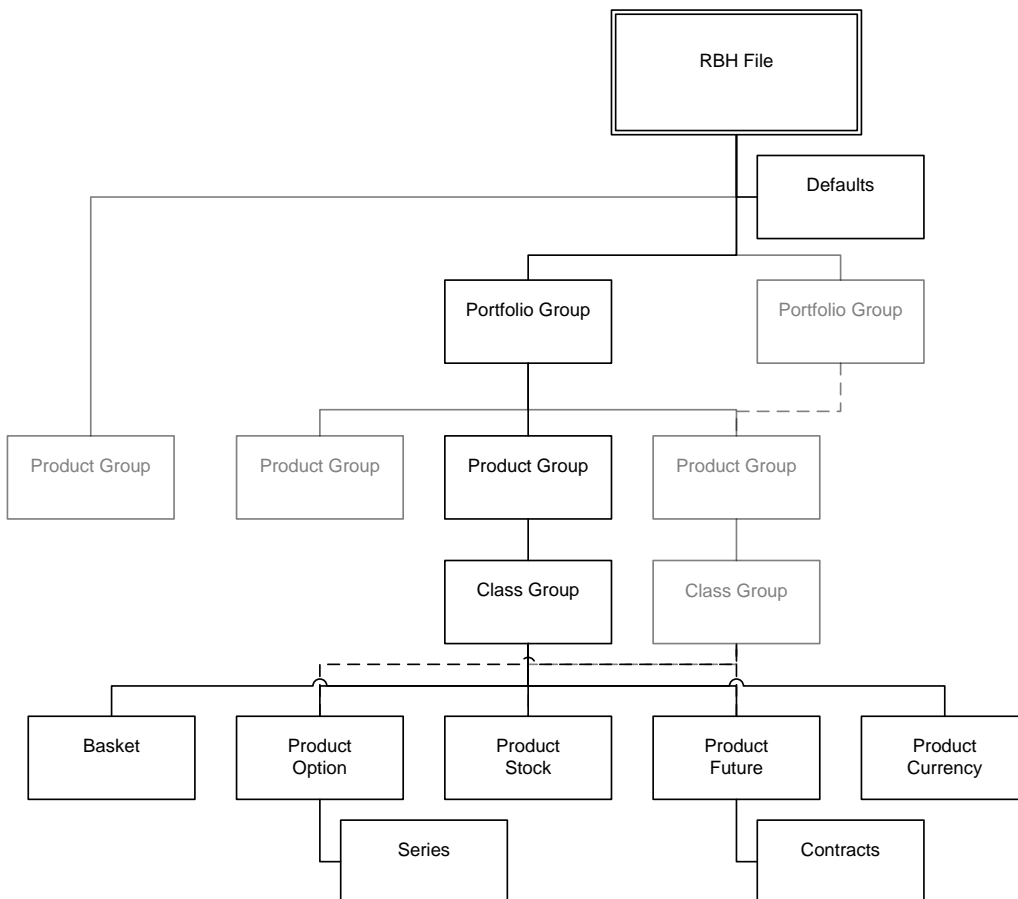
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## Implementation Considerations

### Record Relationships

Within the RBH/CPM FIXML each individual record is uniquely identified via the ListTyp and ListID tags. ListID values are unique per record per ListTyp.

The relationship of one record to another is always stated upwards, meaning that records describe what higher level they roll up to: Product records indicate their parent Class Group, Class Groups indicate their parent Product Groups, Product Groups may roll-up to Portfolio Groups, and so on.



**Figure 1 FIXML RBH/CPM File Diagram**

For a given record the direct parent record is identified by the presence of an AltID block containing an AltIDSrc value of “RBHP”, indicating “RBH/CPM Parent”. The value within the AltID tag maps to the ListID for the parent record.

For example, the below indicates that this record has a parent record with ListID = “USIDX”

```
<AltID AltID="USIDX" AltIDSrc="RBHP" />
```

When mapping child records to their parent records it is recommended to search within the applicable parent record list type. For example, a Class Group record's parent are within the Product Group record set (ListTyp = "106").

## Percent Values

Percentages are displayed as their decimal value multiplied by 100. For example, a percentage of 80% is displayed as "80". It is not displayed as "0.80".

The following fields contain percent values:

- Valu field (tag # 1921) within the PxMvmntValu block when Typ=1 (Price Movement Value = Percent)
- Val field (tag #234) within the Stip block when
  - Typ=OFFSETPCT (RBH/CPM Parameter Type = Offset Percentage)
  - Typ=BSKTMINPCT (RBH/CPM Parameter Type = Basket Minimum Percentage)
  - Typ=BSKTMINCAPPCT (RBH/CPM Parameter Type = Basket Min Cap Percentage)
- Val field (tag #872) within the Attrb block when Typ=103 (Additional Calculation Parameters = Volatility Percent)

## Sample DDS Messages

The formatting of the sample messages contained in this document is for display purposes only. Actual FIXML messages are contained on a single line and are not broken into multiple lines or blocks.

## Batch File Structure

Within each DDS file, the overall structure of the data is as follows, noting that messages have been abbreviated:

```
<FIXML r="20030618" s="20040109" v="4.4" xr="FIA" xv="1.1" ... >
<Batch>
<SecList ... </SecList>
<SecList ... </SecList>
<SecList ... </SecList>
<SecList ... </SecList>
</Batch>
</FIXML>
```

## Outbound File Naming (For Pull Recipients)

For Pull recipients, each new request generates an outbound file with the standard naming convention "RBH-CPMfile\_YYYY-MM-DD.xml", where "RBH-CPMfile" is the file name identified by the external party and "YYYY-MM-DD" is the business date.

Users may choose to receive either full or compressed versions of the RBH/CPM Parameters files and RBH/CPM Theoreticals files. (OTC Theoreticals files are not available as compressed files.) The letter Z is added to the names of compressed files.



There is an additional option to exclude the date from outbound file names for standing requests. Please note that users who elect to receive files without dates in the file names are able to pull only the current day's files. These users should ensure that they pull files and save a copy internally to avoid losing data when OCC creates a new version, as it will overwrite the prior day's files.

Examples of file names for the different file options appear below. For these examples, the batch file name is "rbh-param" and the business date is November 19, 2014.

<b>File Option</b>	<b>Example File Name</b>
Full size file with date stamp	rbh-param_2014-11-19.xml
Compressed file with date stamp	rbh-param_2014-11-19.xml.Z
Full size file with no date stamp	rbh-param.xml
Compressed file with no date stamp	rbh-param.xml.Z

**Note:** The naming convention for Push recipients is determined by the recipient of the file and does not include a date stamp. Also, compressed versions of the RBH/CPM Parameters files and RBH/CPM Theoreticals files are available to Push recipients.

---

## Glossary of Terms

You should be familiar with the following terms prior to reading this guide.

**Batch** – In a computer, a batch job is a program that is assigned to the computer to run without further user interaction. In larger commercial computers or servers, batch jobs are usually initiated by a system user. Some are defined to run automatically at a certain time.

**DDS (Data Distribution Services)** – DDS supports both batch and real-time data delivery and utilizes the FIXML data formatting standard.

**ENCORE** – The clearing system at OCC.

**Event-Driven Processing** – A business event is a meaningful change in the state of the enterprise, such as the opening of a new customer account, clearing a trade, or the matching of a transfer. Event-driven processing is system behavior that is initiated by these business events rather than system events—such as time-based scheduling. Event-driven systems possess the following attributes: 1) Individual treatment of transactions; 2) Push delivery systems; and 3) Electronic notification.

**FIXML (Financial Information eXchange Markup Language)** – The XML derived grammar of the FIX protocol. The FIXML protocol includes message format validation and a cleaner, more expressive structure, and it also leverages existing standards.

**Market Move Adjustment Factor (MMAF)** – A multiplier that is applied to the stress test market move percentages that are used to generate the range of underlying values in theoretical profit and loss calculations. The MMAF is used for ETF and ETN products that employ a leverage ratio to generate returns that are a multiple of their benchmark index. For example, the equity product group market move is +/-15%, so an ETF in that product group with an MMAF of 2 would actually be stressed by +/-30%. Likewise, a negative MMAF will invert the upside and downside market moves.

**Messaging** – There are two major messaging server models: The point-to-point model and the publish/subscribe model. Messaging allows programs to share common message-handling code, to isolate resources and interdependencies, and to easily handle an increase in message volume. Messaging also makes it easier for programs to communicate across different programming environments (languages, compilers, and operating systems) since the only thing that each environment needs to understand is the common messaging format and protocol.

**Package** – A Package is a collection of DDS transmissions that are grouped together based on selections made when the subscription was created.

**Pull Delivery Model** – In this information delivery model, the observer—or client—requests information from the information owner. An example of this model is the download of a document from a web page.

**Push Delivery Model** – In this information delivery model, the information owner distributes the data to the observer as it deems appropriate. An example of this model is the sending and delivery of an email message.

**Recipient** – The entity (Clearing Member Organization, Exchange, Regulatory Agency or Service Bureau) that owns the systems where DDS delivers data for processing or retransmission.

**STP (Straight-Through-Processing)** – The seamless integration of systems and processes to automate the trade process from end-to-end--trade execution, confirmation and settlement--without the need for manual intervention or the re-keying of data.

**Subscriber** – The entity (a Clearing Member Organization, Exchange, or Regulatory Agency) that requests a package of transmissions and owns the data that is transmitted to recipients.

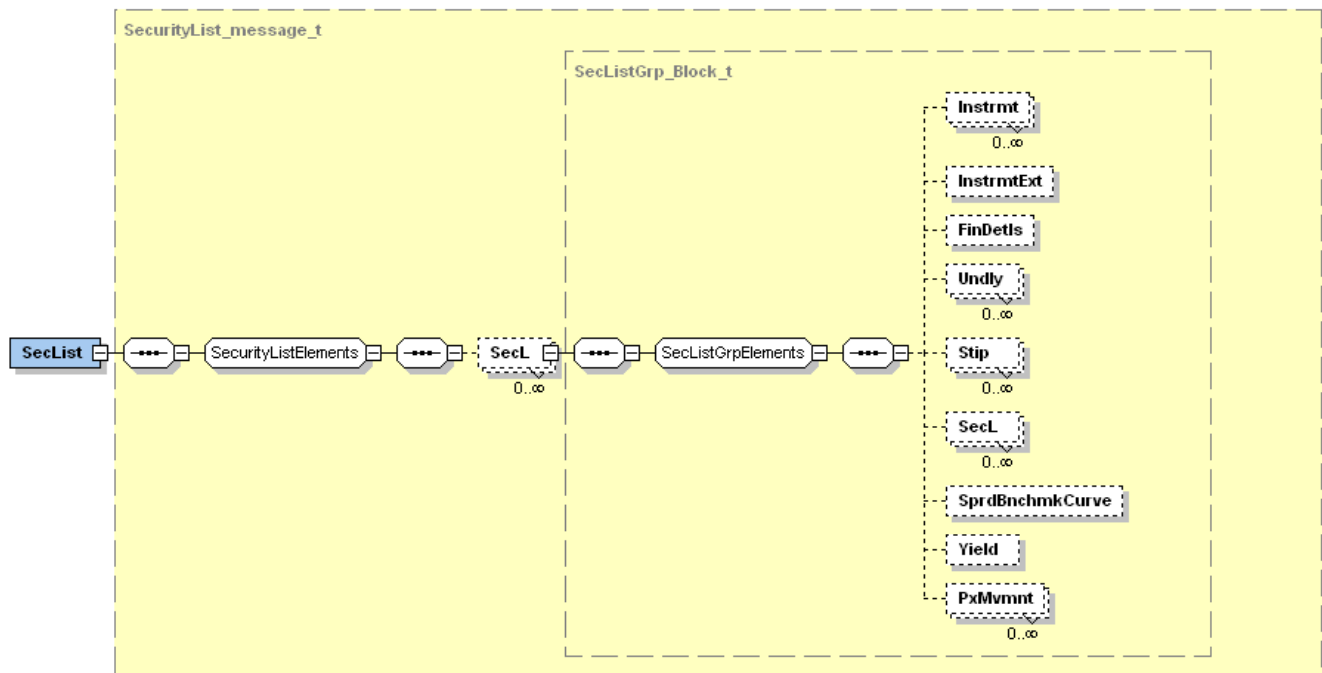
**XML (eXtensible Markup Language)** – A simple and flexible text format derived from SGML (ISO 8879). Originally designed to meet the challenges of large-scale electronic publishing, XML is also playing an increasingly important role in the exchange of a wide variety of data on the Web and elsewhere. Special purpose XML languages and standards are commonly developed with several hundred already adopted since XML 1.0 was released in February 1998.

## ENCORE Transmission: Security List – RBH/CPM Default

FIX Message:	Security List – RBH/CPM Default
Subscription Options:	RBH/CPM Parameters
Delivery Options:	Batch File

Default messages provide the default market move percentages that apply to different product types (Equities, Indexes, and Currencies).

### Message Structure



Message Layout – Security List – RBH/CPM Default

Security List – RBH/CPM Default								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 104 = Defaults	Integer	104
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
	→	→	Instrmt					
167					SecTyp	Security Type: CS = Stock INDEX = Index FXSPOT = Currency	String	CS
	→	→	/Instrmt					
<p><i>The number of Price Movement blocks is determined by the number of distinct sets of Price Movement Values. A Price Movement block will be present for each group of price movements and will contain the associated Clearing Account Types. All Price Movement Value blocks will repeat 10 times, identifying five price points up and down (e.g., -5, -4, -3, -2, -1, 1, 2, 3, 4, 5).</i></p>								
	→	→	PxMvmnt					
	→	→	→	PxMvmntValu				
1922					Pnt	Price Movement Point	Integer	-1
1921					Valu	Price Movement Value	Float	85
1923					Typ	Price Movement Type: 1 = Percent	Integer	1
	→	→	→	/PxMvmntValu				
	→	→	→	ClrAcctTyp				
1816					ClrAcctTyp	Clearing Account Type for the Price Movement Group: 1 = Customer 2 = Firm 3 = Market Maker	Integer	1
	→	→	→	/ClrAcctTyp				
	→	→	/PxMvmnt					
	→	/SecL						
	/SecList							

## Sample Message – Security List – RBH/CPM Default

```
<SecList ListTyp="104" ListID="3" BizDt="2013-03-14">
  <SecL>
    <Instrmt SecTyp="FXSPOT"/>
    <PxMvmnt>
      <PxMvmntValu Valu="1.2" Pnt="1" Typ="1"/>
      <PxMvmntValu Valu="2.4" Pnt="2" Typ="1"/>
      <PxMvmntValu Valu="3.6" Pnt="3" Typ="1"/>
      <PxMvmntValu Valu="4.8" Pnt="4" Typ="1"/>
      <PxMvmntValu Valu="6.0" Pnt="5" Typ="1"/>
      <PxMvmntValu Valu="-1.2" Pnt="-1" Typ="1"/>
      <PxMvmntValu Valu="-2.4" Pnt="-2" Typ="1"/>
      <PxMvmntValu Valu="-3.6" Pnt="-3" Typ="1"/>
      <PxMvmntValu Valu="-4.8" Pnt="-4" Typ="1"/>
      <PxMvmntValu Valu="-6.0" Pnt="-5" Typ="1"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="0.9" Pnt="1" Typ="1"/>
      <PxMvmntValu Valu="1.8" Pnt="2" Typ="1"/>
      <PxMvmntValu Valu="2.7" Pnt="3" Typ="1"/>
      <PxMvmntValu Valu="3.6" Pnt="4" Typ="1"/>
      <PxMvmntValu Valu="4.5" Pnt="5" Typ="1"/>
      <PxMvmntValu Valu="-0.9" Pnt="-1" Typ="1"/>
      <PxMvmntValu Valu="-1.8" Pnt="-2" Typ="1"/>
      <PxMvmntValu Valu="-2.7" Pnt="-3" Typ="1"/>
      <PxMvmntValu Valu="-3.6" Pnt="-4" Typ="1"/>
      <PxMvmntValu Valu="-4.5" Pnt="-5" Typ="1"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

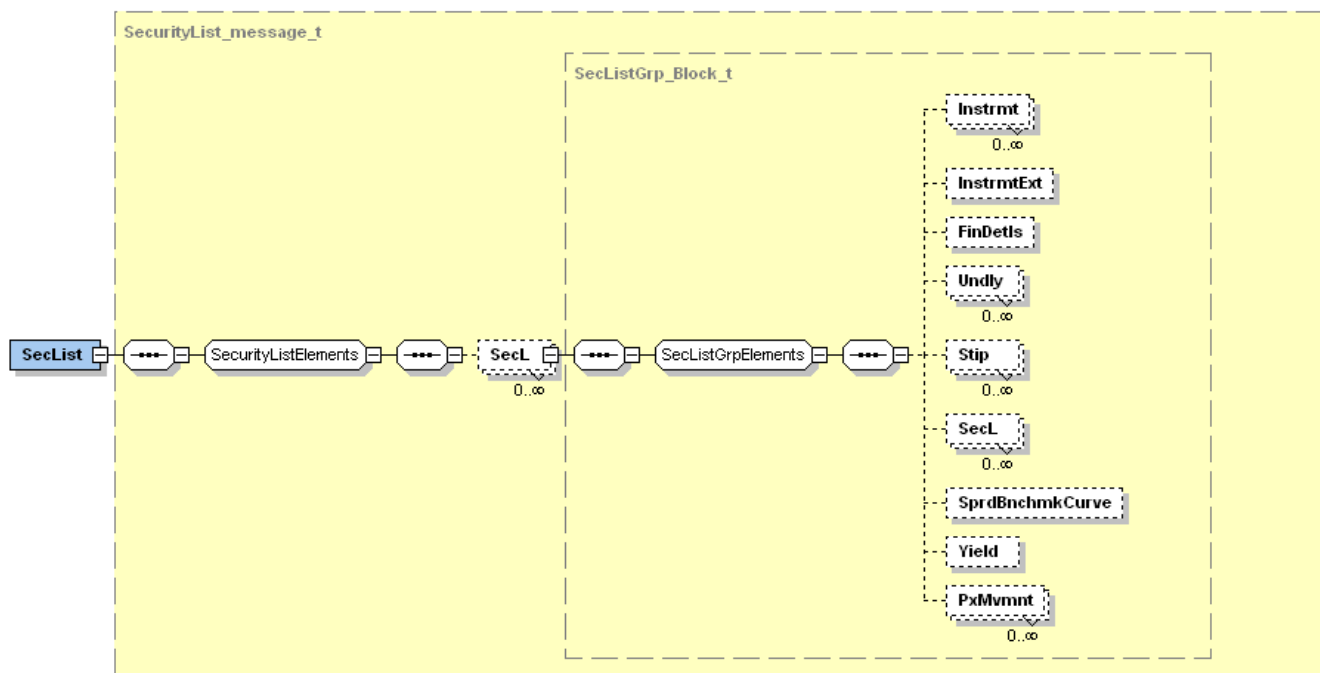
## ENCORE Transmission: Security List – RBH/CPM Portfolio Group

FIX Message:	Security List – RBH/CPM Portfolio Group
Subscription Options:	RBH/CPM Parameters
Delivery Options:	Batch File

Portfolio Group messages provide the offset percentages that are applied between child Product Groups. Most Product Groups (including equity options) do not belong to a Portfolio Group, but some Product Groups (such as Broad Based Indices) may belong to more than one Portfolio Group. There are currently two Portfolio Groups that OCC supports:

- USIDX which contains OTC Indices (8), Broad Based Indices (9), and Small Cap Indices (45)
- BBIDX which contains Broad Based Indices (9)

### Message Structure



Message Layout – Security List – RBH/CPM Portfolio Group

Security List –RBH/CPM Portfolio Group								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 105 = Portfolio Group	Integer	105
1465					ListId	Unique Id for Record within ListTyp: USIDX BBIDX	String	BBIDX
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
	→	→	Stip					
233					Typ	RBH/CPM Parameter Type: OFFSETPCT = Offset Percentage PFGPRIORITY = Portfolio Group Priority	String	OFFSETPCT
234					Val	RBH/CPM Parameter Value	String	37
	→	→	/Stip					
	→	/SecL						
	/SecList							

Sample Message – Security List – RBH/CPM Portfolio Group

```
<SecList ListTyp="105" ListID="BBIDX" BizDt="2013-03-14">
  <SecL>
    <Stip Typ="OFFSETPCT" Val="85.0"/>
    <Stip Typ="PFGPRIORITY" Val="2"/>
  </SecL>
</SecList>
```

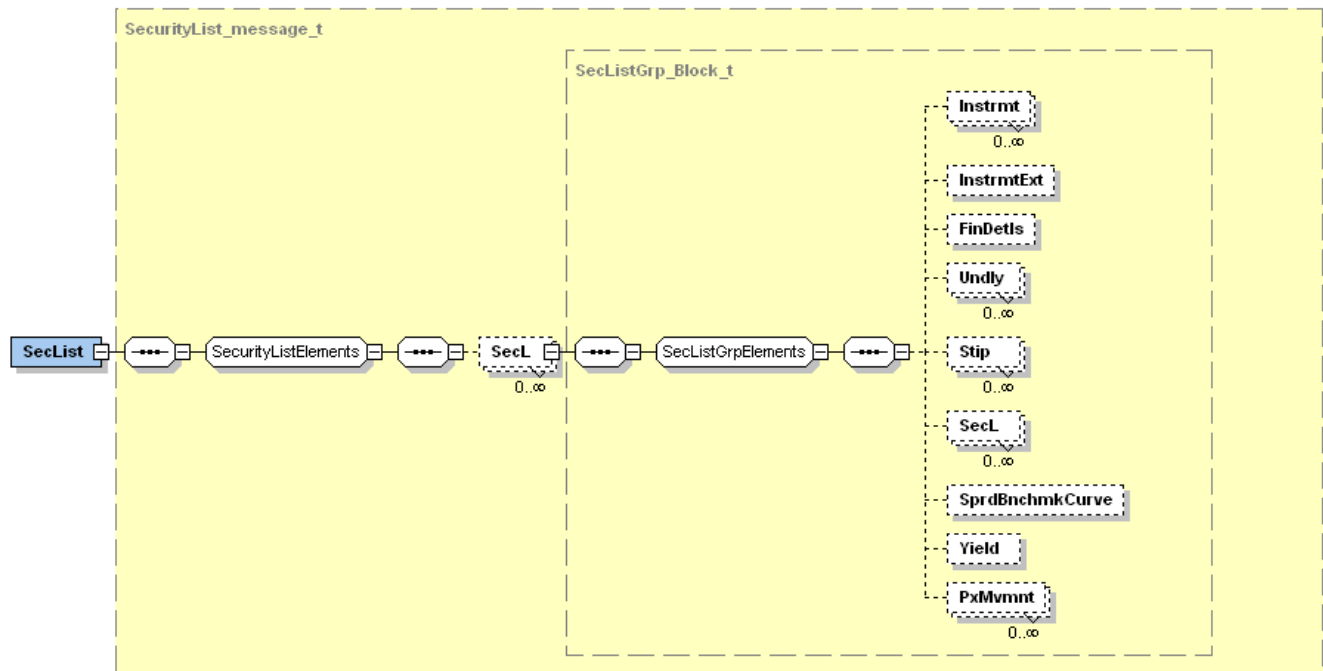


## ENCORE Transmission: Security List – RBH/CPM Product Group

FIX Message:	Security List – RBH/CPM Product Group
Subscription Options:	RBH/CPM Parameters
Delivery Options:	Batch File

Product Group messages provide the market move percentages that are applied to child Class Groups. Product Groups may be a child of a Portfolio Group and will have one or more child Class Groups. If a Product Group rolls up to one or more Portfolio Groups (as in the case of S&P 500), then the parent Portfolio Group(s) will be indicated in the AltID tag.

### Message Structure



Message Layout – Security List – RBH/CPM Product Group

Security List – RBH/CPM Product Group								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 106 = Product Group	Integer	106
1465					ListId	Unique Id for Record within ListTyp	String	2
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
	→	→	Instrmt					
107					Desc	Description	String	Broad Based Indexes
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	/Instrmt					
	→	→	Stip					
233					Typ	RBH/CPM Parameter Type: OFFSETPCT = Offset Percentage	String	OFFSETPCT
234					Val	RBH/CPM Parameter Value	String	37
	→	→	/Stip					
<i>The number of Price Movement blocks is determined by the number of distinct sets of Price Movement Values. A Price Movement block will be present for each group of price movements and will contain the associated Clearing Account Types. All Price Movement Value blocks will repeat 10 times, identifying five price points up and down (e.g., -5, -4, -3, -2, -1, 1, 2, 3, 4, 5).</i>								
	→	→	PxMvmnt					
	→	→	→	PxMvmntValu				
1922					Pnt	Price Movement Point	Integer	-1
1921					Valu	Price Movement Value	Float	85
1923					Typ	Price Movement Type: 1 = Percent	Integer	1
	→	→	→	/PxMvmntValu				

Security List – RBH/CPM Product Group								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	→	→	→	ClrAcctTyp				
1816					ClrAcctTyp	Clearing Account Type for the Price Movement Group 1 = Customer 2 = Firm 3 = Market Maker	Integer	1
	→	→	→	/ClrAcctTyp				
	→	→	/PxMvmnt					
	→	/SecL						
	/SecList							

## Sample Message – Security List – RBH/CPM Product Group

```
<SecList ListTyp="106" ListID="8" BizDt="2013-03-14">
  <SecL>
    <Instrmt Desc="NASDAQ BROAD-BASED INDEXES">
      <AID AltID="USIDX" AltIDSrc="RBHP"/>
    </Instrmt>
    <Stip Typ="OFFSETPCT" Val="75.0"/>
    <PxMvmnt>
      <PxMvmntValu Valu="3.0" Pnt="1" Typ="1"/>
      <PxMvmntValu Valu="6.0" Pnt="2" Typ="1"/>
      <PxMvmntValu Valu="9.0" Pnt="3" Typ="1"/>
      <PxMvmntValu Valu="12.0" Pnt="4" Typ="1"/>
      <PxMvmntValu Valu="15.0" Pnt="5" Typ="1"/>
      <PxMvmntValu Valu="-3.0" Pnt="-1" Typ="1"/>
      <PxMvmntValu Valu="-6.0" Pnt="-2" Typ="1"/>
      <PxMvmntValu Valu="-9.0" Pnt="-3" Typ="1"/>
      <PxMvmntValu Valu="-12.0" Pnt="-4" Typ="1"/>
      <PxMvmntValu Valu="-15.0" Pnt="-5" Typ="1"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="2.0" Pnt="1" Typ="1"/>
      <PxMvmntValu Valu="4.0" Pnt="2" Typ="1"/>
      <PxMvmntValu Valu="6.0" Pnt="3" Typ="1"/>
      <PxMvmntValu Valu="8.0" Pnt="4" Typ="1"/>
      <PxMvmntValu Valu="10.0" Pnt="5" Typ="1"/>
      <PxMvmntValu Valu="-2.0" Pnt="-1" Typ="1"/>
      <PxMvmntValu Valu="-4.0" Pnt="-2" Typ="1"/>
      <PxMvmntValu Valu="-6.0" Pnt="-3" Typ="1"/>
      <PxMvmntValu Valu="-8.0" Pnt="-4" Typ="1"/>
      <PxMvmntValu Valu="-10.0" Pnt="-5" Typ="1"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
      <ClrAcctTyp ClrAcctTyp="1"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

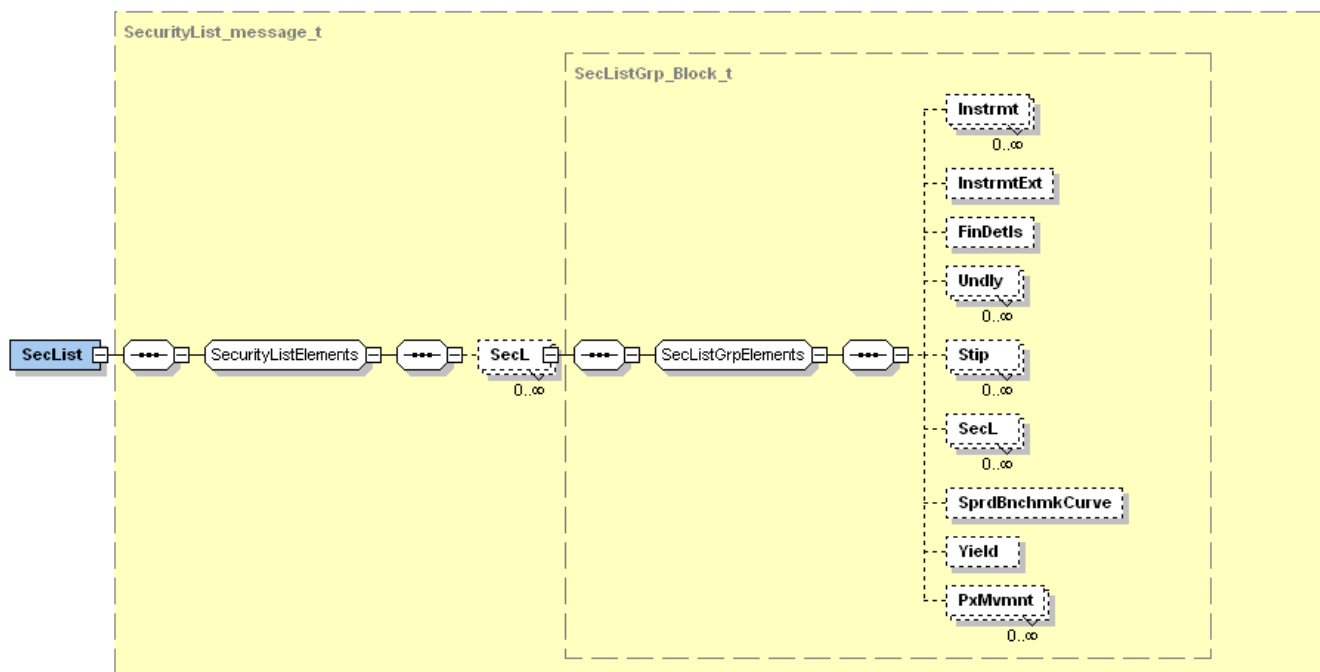
## ENCORE Transmission: Security List – RBH/CPM Class Group

FIX Message:	Security List – RBH/CPM Class Group
Subscription Options:	RBH/CPM Parameters
Delivery Options:	Batch File

Class Group messages group together products that are based on the same underlying, as well as that underlying product.

Class Groups are children of Product Groups and are parents of one or more Products. The parent Product Group is indicated in the AltID tag.

### Message Structure



## Message Layout - Security List - RBH/CPM Class Group

Security List - RBH/CPM Class Group								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 107 = Class Group	Integer	107
1465					ListId	Unique Id for Record within ListTyp	String	1245
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
	→	→	Instrmt					
107					Desc	Description	String	Broad Based Indexes
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	/Instrmt					
	→	/SecL						
	/SecList							

## Sample Message - Security List - RBH/CPM Class Group

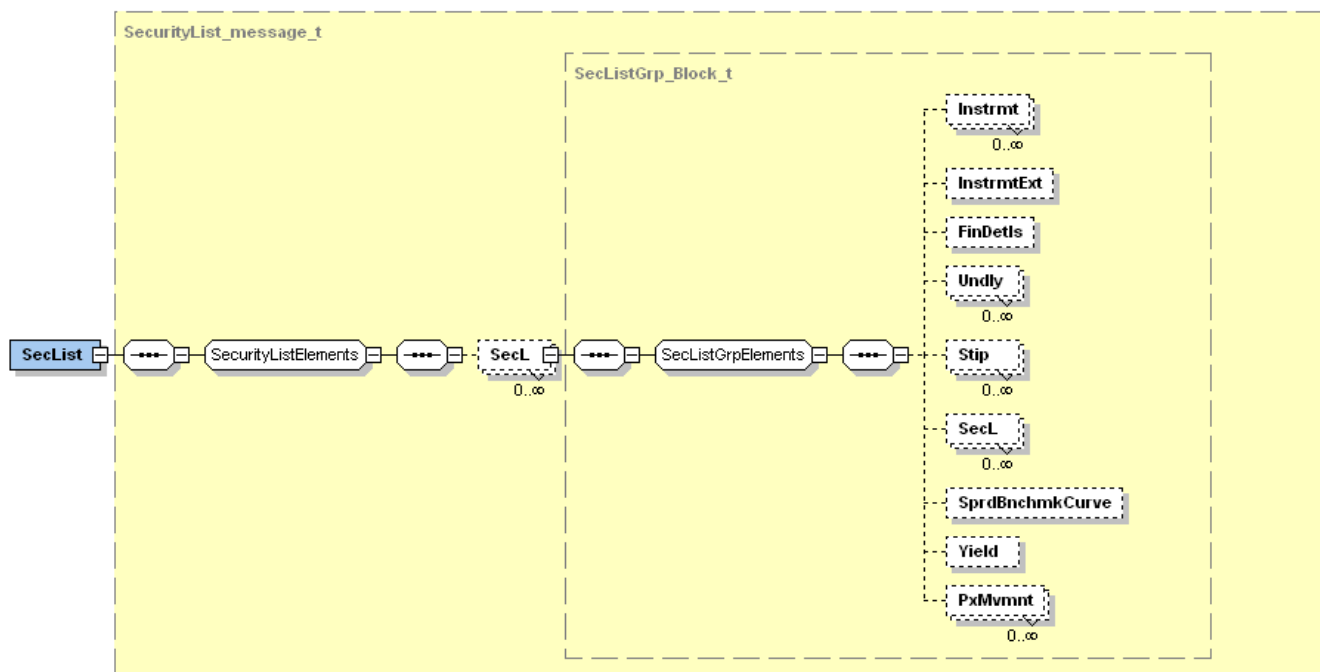
```
<SecList ListTyp="107" ListID="A" BizDt="2013-03-14">
  <SecL>
    <Instrmt Desc="AGILENT TECHNOLOGIES, INC.">
      <AID AltID="999" AltIDSrc="RBHP"/>
    </Instrmt>
  </SecL>
</SecList>
```

## ENCORE Transmission: Security List - RBH/CPM Basket ID

FIX Message:	Security List - RBH/CPM Basket ID
Subscription Options:	RBH/CPM Parameters
Delivery Options:	Batch File

Basket ID messages aggregate stocks that represent an ETF/ETN or index. Basket IDs are children of Class Groups, which is indicated in the AltID tag.

### Message Structure



Message Layout - Security List - RBH/CPM Basket ID

Security List - RBH/CPM Basket ID								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 108 = Basket ID Group	Integer	108
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
	→	→	Instrmt					
107					Desc	Description	String	Broad Based Indexes
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	/Instrmt					
	→	→	Stip					
233					Typ	RBH/CPM Parameter Type: OFFSETPCT = Offset Percentage BSKTMINPCT = Basket Minimum Percentage BSKTMINCAPPCT = Basket Min Cap Percentage	String	BSKTMINPCT
234					Val	RBH/CPM Parameter Value	String	37
	→	→	/Stip					
	→	/SecL						
	/SecList							



## Sample Message – Security List – RBH/CPM Basket ID

```
<SecList ListTyp="108" ListID="1AMLP" BizDt="2012-12-20">
  <SecL>
    <Instrmt Desc="ALERIAN MLP ETF">
      <AID AltID="AMLP" AltIDSrc="RBHP"/>
    </Instrmt>
    <Stip Typ="OFFSETPCT" Val="95.0"/>
    <Stip Typ="BSKTMINPCT" Val="5.0"/>
    <Stip Typ="BSKTMINCAPPCT" Val="95.0"/>
  </SecL>
</SecList>
```

---

## ENCORE Transmission: Security List – RBH/CPM Product

FIX Message:	Security List – RBH/CPM Product
Subscription Options:	RBH Products: Option, Future, Currency, Securities
	OTC Theoreticals: OCC Cleared OTC Options
Delivery Options:	Batch File

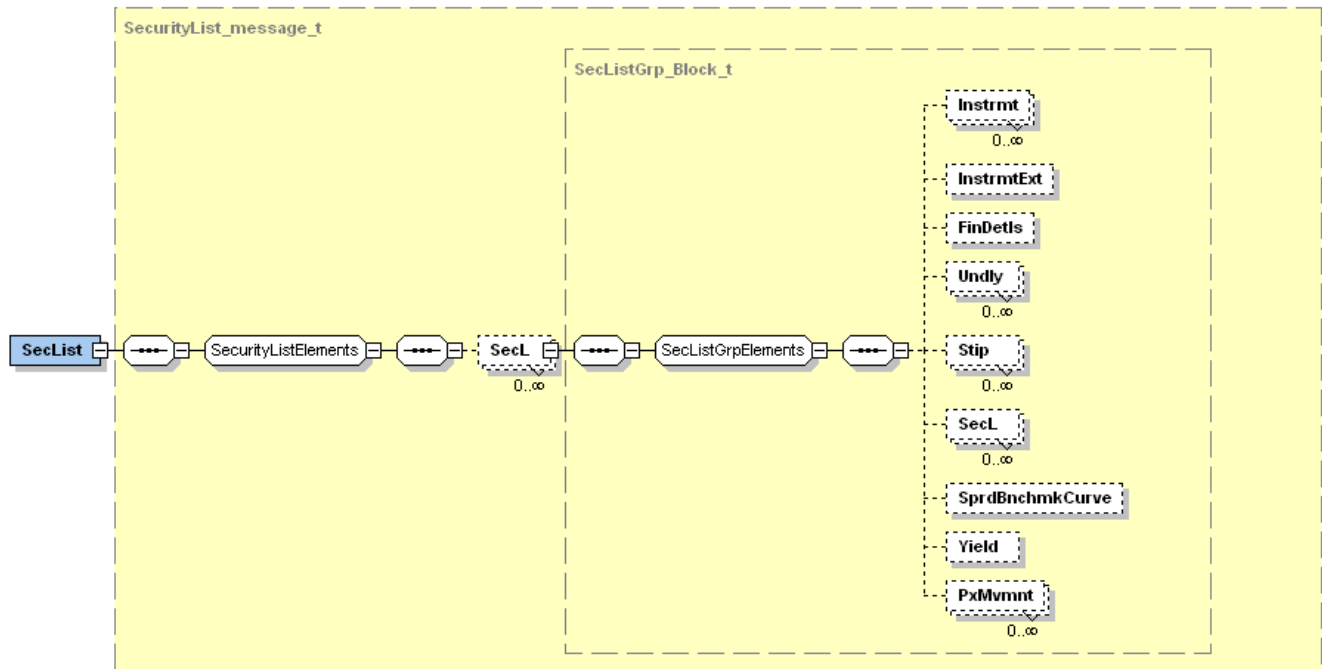
The message includes a product record for each of the following types of Products:

- Options
  - Equity/Index
  - Option on Future
  - OTC (OTC Traded & OCC Cleared)
- Futures (Equity, Index, Currency & Commodity Futures)
- Securities
  - Stocks, ETFs, ETNs, & Indices
- Currencies

Options and Futures Product records contain RBH and CPM minimums, but Profit & Loss amounts are provided at the Series/Contract level. If the Product record is a Security or a Currency, then the record contains the Profit & Loss amounts along with the RBH and CPM Minimums.

Products are children of Class Groups, which are indicated in the AltID tag. For options and futures, the product may be a parent to one or more series/contracts.

# Message Structure



Message Layout – Security List – RBH/CPM Product – Option

Security List – RBH/CPM Product - Option								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 109 = Product	Integer	109
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
15					Ccy	Currency	Currency	USD
	→	→	Instrmt					
55					Sym	Symbol	String	LU
307					Desc	Description	String	Broad Based Indexes
231					Mult	Multiplier	Float	100
167					SecTyp	Security Type: OPT = Option OOF = Option on Future WAR = Warrant	String	OPT
762					SubTyp	Security Sub Type: ETO = Exchange Traded Option (RBH/CPM Eligible Option) OTC = OTC Option	String	ETO
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	→	Pty				
22					Src	ID Source G = Exchange	String	G
	→	→	→	/Pty				
	→	→	/Instrmt					
	→	→	InstrmtExt					
	→	→	→	Attrb				

Security List – RBH/CPM Product - Option								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
871					Typ	Additional Calculation Parameters 101 = Spot Currency Divisor 108 = Leverage Ratio/Market Move Adjustment Factor	Integer	101
872					Val	Additional Calculation Value	String	125125.99
	→	→	→	/Attrb				
	→	→	/InstrmtExt					
	→	→	Undly					
311					Sym	Symbol	String	LU
307					Desc	Description	String	CBOE S&P 500 Index
810					Px	Underlying Price	Price	1409.75
309					ID	Alternate Underlying Product Reference	String	912795FR6
305					Src	Type of Alt. Underlying Product Reference: 1 = CUSIP	String	1
318					Ccy	Underlying Currency	Currency	USD
	→	→	→	UndAID				
458					AltID	Additional Product ID	String	53
	→	→	→	/UndAID				
	→	→	/Undly					
	→	→	Stip					
233					Typ	RBH/CPM Parameter Type: RBHMIN = RBH Minimum CPMMIN = CPM Minimum	String	CPMMIN
234					Val	RBH/CPM Parameter Value	String	37.5
	→	→	/Stip					
	→	/SecL						
	/SecList							

## Sample Message – RBH/CPM Product – Equity/Index Options

```
<SecList ListTyp="109" ListID="8134219" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="ProShares UltraPro Short Dow30" SecTyp="OPT" SubTyp="ETO" Sym="SDOW" Mult="100">
      <AID AltID="00016" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="101" Val="1.0000"/>
      <Attrb Typ="108" Val="-3.0000"/>
    </InstrmtExt>
    <Undly Desc="PROSHARES ULTRAPRO SHORT DOW30" Px="48.810000" Ccy="USD" Sym="SDOW" ID="74347X112"
Src="1"/>
    <Stip Typ="RBHMIN" Val="25.000"/>
    <Stip Typ="CPMMIN" Val="37.500"/>
  </SecL>
</SecList>
```

## Sample Message – RBH/CPM Product – Option on Future

For Options on Futures records, the Instrmt block does not contain the ID, Src or Px tags. The Undly block contains only the Sym, Desc and Ccy tags.

```
<SecList ListTyp="109" ListID="5001389" BizDt="2013-03-04">
  <SecL Ccy="USD">
    <Instrmt Desc="CBOT DOW JONES MINI FUTURE" SecTyp="OOF" SubTyp="ETO" Sym="YM" Mult="50">
      <AID AltID="00016" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="101" Val="1.0000"/>
      <Attrb Typ="108" Val="1.0000"/>
    </InstrmtExt>
    <Undly Desc="CBOT MINI-SIZED DOW JONES FUTURE" Ccy="USD" Sym="YM"/>
    <Stip Typ="RBHMIN" Val="25.000"/>
    <Stip Typ="CPMMIN" Val="37.500"/>
  </SecL>
</SecList>
```

## Sample Message – RBH/CPM Product – OTC Option

```
<SecList ListTyp="109" ListID="1200000391" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="OVER THE COUNTER SPX INDEX" SecTyp="OPT" SubTyp="OTC" Sym=".SPX" Mult="100">
      <AID AltID="00018" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="101" Val="1.0000"/>
      <Attrb Typ="108" Val="1.0000"/>
    </InstrmtExt>
    <Undly Desc="CBOE S&amp;P 500 INDEX" Px="1562.280000" Ccy="USD" Sym="SPX" ID="648815108"
Src="1"/>
    <Stip Typ="RBHMIN" Val="0.250"/>
    <Stip Typ="CPMMIN" Val="0.375"/>
  </SecL>
</SecList>
```

Message Layout – Security List – RBH/CPM Product – Futures

Security List – RBH/CPM Product - Futures								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 109 = Product	Integer	109
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
15					Ccy	Currency	Currency	USD
	→	→	Instrmt					
55					Sym	Symbol	String	LU
107					Desc	Description	String	Broad Based Indexes
231					Mult	Multiplier	Float	100
167					SecTyp	Security Type: FUT = Future	String	FUT
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	/Instrmt					
	→	→	InstrmtExt					
	→	→	→	Attrb				
871					Typ	Additional Calculation Parameters 101 = Spot Currency Divisor 108 = Leverage Ratio/Market Move Adjustment Factor	Integer	101
872					Val	Additional Calculation Value	String	125125.99
	→	→	→	/Attrb				
	→	→	/InstrmtExt					
	→	→	Undly					
311					Sym	Symbol	String	LU
307					Desc	Description	String	CBOE S&P 500 Index



Security List – RBH/CPM Product - Futures								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
810					Px	Underlying Price	Price	1409.75
309					ID	Alternate Underlying Product Reference	String	912795FR6
305					Src	Type of Alt. Underlying Product Reference: 1 = CUSIP	String	1
318					Ccy	Underlying Currency	Currency	USD
	→	→	/Undly					
	→	→	Stip					
233					Typ	RBH/CPM Parameter Type: RBHMIN = RBH Minimum CPMMIN = CPM Minimum	String	CPMMIN
234					Val	RBH/CPM Parameter Value	String	37.5
	→	→	/Stip					
	→	/SecL						
	/SecList							

## Sample Message – RBH/CPM Product – Futures

```
<SecList ListTyp="109" ListID="8147989" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="NO DIV RISK CBL & Associates Properties, Inc." SecTyp="FUT" Sym="CBL1D"
      Mult="100">
      <AID AltID="CBL" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="101" Val="1.0000"/>
      <Attrb Typ="108" Val="1.0000"/>
    </InstrmtExt>
    <Undly Desc="CBL & ASSOC PPTYS INCCOM" Px="22.900000" Ccy="USD" Sym="CBL" ID="124830100"
      Src="1"/>
    <Stip Typ="RBHMIN" Val="25.000"/>
    <Stip Typ="CPMMIN" Val="37.500"/>
  </SecL>
</SecList>
```

Message Layout - Security List - RBH/CPM Product - Securities

Security List - RBH/CPM Product - Securities								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 109 = Product	Integer	109
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
15					Ccy	Currency	Currency	USD
	→	→	Instrmt					
55					Sym	Symbol	String	LU
107					Desc	Description	String	Broad Based Indexes
48					ID	Alternate Product Reference	String	123456
22					Src	Type of Alt. Product Reference 1 = CUSIP	String	1
167					SecTyp	Security Type: CS = Stock	String	CS
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	→	Pty				
22					Src	ID Source G = Exchange	String	G
	→	→	→	/Pty				
	→	→	/Instrmt					
	→	→	InstrmtExt					
	→	→	→	Attrb				
871					Typ	Additional Calculation Parameters 101 = Spot Currency Divisor 105 = Stock Price 108 = Leverage Ratio/Market Move Adjustment Factor	Integer	101

Security List – RBH/CPM Product - Securities								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
872					Val	Additional Calculation Value	String	125125.99
	→	→	→	/Attrb				
	→	→	/InstrmtExt					
<p>The number of Price Movement blocks is determined by the number of distinct sets of Price Movement Values. A Price Movement block will be present for each group of price movements and will contain the associated Clearing Account Types. All Price Movement Value blocks will repeat 10 times, identifying five price points up and down (e.g., -5, -4, -3, -2, -1, 1, 2, 3, 4, 5).</p>								
	→	→	PxMvmnt					
	→	→	→	PxMvmntValu				
1922					Pnt	Price Movement Point	Int	-1
1921					Valu	Price Movement Value	Float	-2806.963
1923					Typ	Price Movement Type: 0 = Amount	Integer	0
	→	→	→	/PxMvmntValu				
	→	→	→	ClrAcctTyp				
1816					ClrAcctTyp	Clearing Account Type for the Price Movement Group 1 = Customer 2 = Firm 3 = Market Maker	Integer	1
	→	→	→	/ClrAcctTyp				
	→	→	/PxMvmnt					
	→	/SecL						
	/SecList							

## Sample Message – RBH/CPM Product – Securities (Stocks, ETFs, ETNs, & Indices)

```
<SecList ListTyp="109" ListID="435" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="AGILENT TECHNOLOGIES INC" SecTyp="CS" Sym="A" ID="00846U101" Src="1">
      <AID AltID="A" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="101" Val="1.000"/>
      <Attrb Typ="105" Val="43.320"/>
      <Attrb Typ="108" Val="1.0000"/>
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="1.300" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="2.599" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="3.899" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="5.198" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="6.498" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-1.300" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-2.599" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-3.899" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-5.198" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-6.498" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
      <ClrAcctTyp ClrAcctTyp="1"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

Message Layout – Security List – RBH/CPM Product – Currencies

Security List – RBH/CPM Product - Currency								
FIX Mapping								
Tag#	Rpt Block	Component	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 109 = Product	Integer	109
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
15					Ccy	Currency	Currency	USD
	→	→	Instrmt					
55					Sym	Symbol	String	LU
107					Desc	Description	String	Broad Based Indexes
167					SecTyp	Security Type: FXSPOT = Currency	String	FXSPOT
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	/Instrmt					
	→	→	InstrmtExt					
	→	→	→	Attrb				
871					Typ	Additional Calculation Parameters 101 = Spot Currency Divisor 106 = Exchange Rate	Integer	101
872					Val	Additional Calculation Value	String	125125.99
	→	→	→	/Attrb				
	→	→	/InstrmtExt					
<i>The number of Price Movement blocks is determined by the number of distinct sets of Price Movement Values. A Price Movement block will be present for each group of price movements and will contain the associated Clearing Account Types. All Price Movement Value blocks will repeat 10 times, identifying five price points up and down (e.g., -5, -4, -3, -2, -1, 1, 2, 3, 4, 5).</i>								
	→	→	PxMvmnt					

Security List – RBH/CPM Product - Currency								
FIX Mapping								
Tag#	Rpt Block	Component	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	→	→	→	PxMvmntValu				
1922					Pnt	Price Movement Point	Integer	-1
1921					Valu	Price Movement Value	Float	-2806.963
1923					Typ	Price Movement Type: 0 = Amount	Integer	1
	→	→	→	/PxMvmntValu				
	→	→	→	ClrAcctTyp				
1816					ClrAcctTyp	Clearing Account Type for the Price Movement Group 2 = Firm 3 = Market Maker	Integer	1
	→	→	→	/ClrAcctTyp				
	→	→	→	/PxMvmnt				
	→	/SecL						
	/SecList							

## Sample Message – RBH/CPM Product – Currencies

```
<SecList ListTyp="109" ListID="1" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="Australian Dollar" SecTyp="FXSPOT" Sym="AUD">
      <AID AltID="00110" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="101" Val="10.0000"/>
      <Attrb Typ="106" Val="1.03760000"/>
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="0.042" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="0.083" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="0.125" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="0.166" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="0.208" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-0.042" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-0.083" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-0.125" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-0.166" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-0.208" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
    </PxMvmnt>
  </SecL>
</SecList>
```



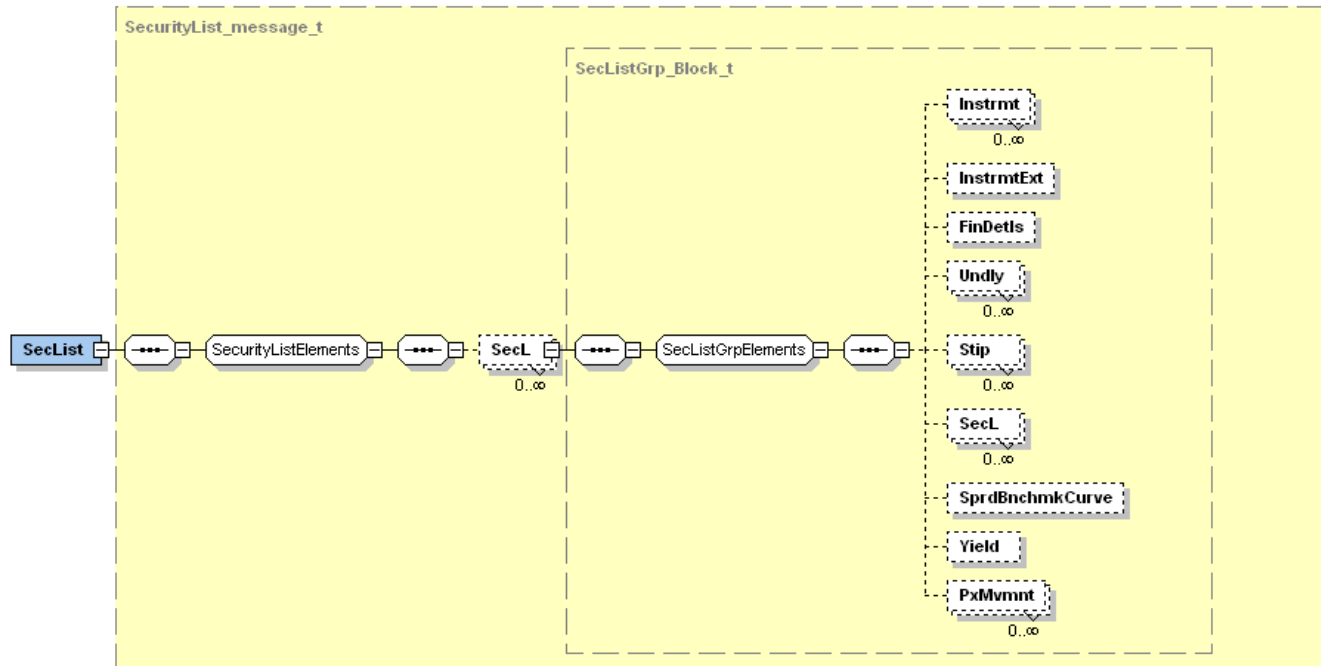
## ENCORE Transmission: RBH/CPM Series/Contract

FIX Message:	Security List – RBH/CPM Series/Contract
Subscription Options:	RBH/CPM Products: Option, Future
	OTC Theoretical: OCC Cleared OTC Options
Delivery Options:	Batch File

RBH/CPM Series/Contract records provide the Profit & Loss amounts for option series and futures contracts. Series/Contracts are children of one and only one Product, identified in the AltID tag.

For OTC Series the Clearing Member must have a position in the particular series in order to receive the RBH/CPM Series record.

### Message Structure



Message Layout – Security List – RBH/CPM Series/Contract – Option Series

Security List – RBH/CPM Series/Contract – Option Series								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 110 = Series/Contract	Integer	110
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2012-07-27
	→	SecL						
15					Ccy	Currency	Currency	USD
	→	→	Instrmt					
55					Sym	Symbol	String	LU
107					Desc	Description	String	Broad Based Indexes
200					MMY	Series/Contract Year, Month, Date	MonthYear	20040417 (4 for year, 2 for month, 2 for day)
541					MatDt	Expiration Date	LocalMktDate	2004-04-17
202					StrkPx	Strike Price (decimal format)	Price	4
947					StrkCcy	Strike Currency	Currency	USD
967					StrkMult	Strike Multiplier	Float	1
968					StrkValu	Strike Value	Float	100
167					SecTyp	Security Type: OPT = Option OOF = Option on Future	String	OPT
762					SubTyp	Security Sub Type: ETO = Exchange Traded Option (RBH/CPM Eligible Option) OTC = OTC Cleared Option	String	ETO
201					PutCall	Put or Call 0=Put 1=Call	Integer	1

**Security List – RBH/CPM Series/Contract – Option Series**

**FIX Mapping**

Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
1194					ExerStyle	Exercise Style 0=European 1= American	Integer	1
966					SettleOnOpenFlag	Settle on Open Flag Y = Yes N = No	String	Y
	→	→	→	AID				
455					AltID	Additional Product ID	String	53
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→		/Instrmt				
	→	→		InstrmtExt				
	→	→	→	Attrb				
871					Typ	Additional Calculation Parameters 102=Extended Market Price 103=Volatility Percent	Integer	101
872					Val	Additional Calculation Value	String	125125.99
	→	→	→	/Attrb				
	→	→		/InstrmtExt				
<p><i>The number of Price Movement blocks is determined by the number of distinct sets of Price Movement Values. A Price Movement block will be present for each group of price movements and will contain the associated Clearing Account Types. All Price Movement Value blocks will repeat 10 times, identifying five price points up and down (e.g., -5, -4, -3, -2, -1, 1, 2, 3, 4, 5).</i></p>								
	→	→		PxMvmnt				
	→	→	→	PxMvmntValu				
1922					Pnt	Price Movement Point	Integer	-1
1921					Valu	Price Movement Value	Float	-2806.963
1923					Typ	Price Movement Type: 0 = Amount	Integer	0
	→	→	→	/PxMvmntValu				
	→	→	→	ClrAcctTyp				

Security List – RBH/CPM Series/Contract – Option Series								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
1816					ClrAcctTyp	Clearing Account Type for the Price Movement Group 1 = Customer 2 = Firm 3 = Market Maker	Integer	1
	→	→	→	/ClrAcctTyp				
	→	→	/PxMvmnt					
	→	/SecL						
	/SecList							

## Sample Message – RBH/CPM Series/Contract – Option Series – Equity

```
<SecList ListTyp="110" ListID="16655338" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="AGILENT TECHNOLOGIES, INC." SecTyp="OPT" SubTyp="ETO" Sym="A" MMY="20130316"
      MatDt="2013-03-16" StrkPx="31" PutCall="1" StrkCcy="USD" ExerStyle="1" SettleOnOpenFlag="N"
      StrkMult="1" StrkValu="100">
      <AID AltID="20761" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="102" Val="1232.029"/>
      <Attrb Typ="103" Val="59.0"/>
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="129.945" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="259.906" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="389.865" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="519.825" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="649.785" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-129.975" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-259.935" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-389.895" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-519.855" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-649.815" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
      <ClrAcctTyp ClrAcctTyp="1"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

## Sample Message – RBH/CPM Series/Contract – Option Series – Index

```
<SecList ListTyp="110" ListID="14932601" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="CBOE S&amp;P 500 OPEN/EURO INDEX" SecTyp="OPT" SubTyp="ETO" Sym="SPX"
      MMY="20130316" MatDt="2013-03-16" StrkPx="100" PutCall="1" StrkCcy="USD" ExerStyle="0"
      SettleOnOpenFlag="Y" StrkMult="1" StrkValu="100">
      <AID AltID="20320" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="102" Valu="146210.015"/>
      <Attrb Typ="103" Valu="46.0"/>
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="3133.381" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="6257.758" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="9382.135" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="12506.513" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="15630.890" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-3115.387" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-6239.764" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-9364.142" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-12488.519" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-15612.909" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="1883.612" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="3758.258" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="5632.880" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="7507.502" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="9382.135" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-2490.509" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-4990.008" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-7489.520" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-9989.019" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-12488.519" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
      <ClrAcctTyp ClrAcctTyp="1"/>
    </PxMvmnt>
  </SecL>
</SecList>
```

## Sample Message – RBH/CPM Series/Contract – Option on Future Series

```
<SecList ListTyp="110" ListID="20152181" BizDt="2014-05-16">
  <SecL Ccy="USD">
    <Instrmt Desc="CME S&P 500 INDEX" SecTyp="OOF" SubTyp="ETO" Sym="SP" MMY="20140919"
    MatDt="2014-09-19" StrkPx="1835.0000" PutCall="0" StrkCcy="USD" ExerStyle="1"
    SettleOnOpenFlag="N" StrkMult="1.000" StrkValu="250.000">
      <AID AltID="20314" AltIDSrc="RBHP" />
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="102" Val="11206.228" />
      <Attrb Typ="103" Val="14.0" />
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="-2055.058" Pnt="1" Typ="0" />
      <PxMvmntValu Valu="-3891.756" Pnt="2" Typ="0" />
      <PxMvmntValu Valu="-5332.007" Pnt="3" Typ="0" />
      <PxMvmntValu Valu="-6627.591" Pnt="4" Typ="0" />
      <PxMvmntValu Valu="7136.537" Pnt="-2" Typ="0" />
      <PxMvmntValu Valu="11495.542" Pnt="-3" Typ="0" />
      <PxMvmntValu Valu="16629.809" Pnt="-4" Typ="0" />
      <PxMvmntValu Valu="22233.992" Pnt="-5" Typ="0" />
      <ClrAcctTyp ClrAcctTyp="3" />
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="-3387.620" Pnt="1" Typ="0" />
      <PxMvmntValu Valu="-5812.086" Pnt="2" Typ="0" />
      <PxMvmntValu Valu="-7602.806" Pnt="3" Typ="0" />
      <PxMvmntValu Valu="-8888.093" Pnt="4" Typ="0" />
      <PxMvmntValu Valu="9304.500" Pnt="-2" Typ="0" />
      <PxMvmntValu Valu="15346.154" Pnt="-3" Typ="0" />
      <PxMvmntValu Valu="22233.992" Pnt="-4" Typ="0" />
      <PxMvmntValu Valu="29859.354" Pnt="-5" Typ="0" />
      <ClrAcctTyp ClrAcctTyp="2" />
    </PxMvmnt>
  </SecL>
</SecList>
```

## Sample Message – RBH/CPM Series/Contract – OTC Option Series

```
<SecList ListTyp="110" ListID="1100051720" BizDt="2013-03-14">
  <SecL Ccy="USD">
    <Instrmt Desc="OVER THE COUNTER SPX INDEX" SecTyp="OPT" SubTyp="OTC" Sym=".SPX" MMY="20170117"
      MatDt="2017-01-17" StrkPx="1472" PutCall="1" StrkCcy="USD" ExerStyle="0" SettleOnOpenFlag="N" StrkMult="1"
      StrkValu="1">
      <AID AltID="1200000391" AltIDSrc="RBHP"/>
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="102" Valu="22204.331"/>
      <Attrb Typ="103" Valu="19.0"/>
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="1702.909" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="3468.456" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="5289.260" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="7163.369" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="9088.814" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-1654.830" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-3243.371" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-4769.396" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-6231.312" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-7627.659" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="2"/>
    </PxMvmnt>
    <PxMvmnt>
      <PxMvmntValu Valu="1012.587" Pnt="1" Typ="0"/>
      <PxMvmntValu Valu="2051.508" Pnt="2" Typ="0"/>
      <PxMvmntValu Valu="3110.865" Pnt="3" Typ="0"/>
      <PxMvmntValu Valu="4190.252" Pnt="4" Typ="0"/>
      <PxMvmntValu Valu="5289.260" Pnt="5" Typ="0"/>
      <PxMvmntValu Valu="-1329.766" Pnt="-1" Typ="0"/>
      <PxMvmntValu Valu="-2615.362" Pnt="-2" Typ="0"/>
      <PxMvmntValu Valu="-3861.378" Pnt="-3" Typ="0"/>
      <PxMvmntValu Valu="-5066.958" Pnt="-4" Typ="0"/>
      <PxMvmntValu Valu="-6231.312" Pnt="-5" Typ="0"/>
      <ClrAcctTyp ClrAcctTyp="3"/>
      <ClrAcctTyp ClrAcctTyp="1"/>
    </PxMvmnt>
  </SecL>
</SecList>
```



Message Layout - Security List - RBH/CPM Series/Contract - Futures Contract

Security List - RBH/CPM Series/Contract - Futures Contract								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	SecList							
1470					ListTyp	Record Type: 110 = Series/Contract	Integer	110
1465					ListId	Unique Id for Record within ListTyp	String	12345
715					BizDt	Clearing Business Date	LocalMktDate	2013-04-02
	→	SecL						
15					Ccy	Currency	Currency	USD
	→	→	Instrmt					
55					Sym	Symbol	String	A1C
48					ID	Alternate Product Reference	String	A1CH13
22					Src	Type of Alt. Product Reference 8 = Futures Exchange Symbol	String	8
107					Desc	Description	String	Agilent Technologies Inc.
200					MMY	Series/Contract Year, Month, Date	MonthYear	20130413 (4 for year, 2 for month, 2 for day)
541					MatDt	Expiration Date	LocalMktDate	2013-04-13
167					SecTyp	Security Type: FUT = Future	String	FUT
	→	→	→	AID				
455					AltID	Additional Product ID	String	8006423
456					AltIDSrc	RBHP = RBH/CPM Parent	String	RBHP
	→	→	→	/AID				
	→	→	/Instrmt					
	→	→	InstrmtExt					
	→	→	→	Attrb				
871					Typ	Additional Calculation Parameters 104 = Futures Contract Price	Integer	104
872					Val	Additional Calculation Value	String	43.320

Security List – RBH/CPM Series/Contract – Futures Contract								
FIX Mapping								
Tag#	Rpt Block	Comp	Sub Comp.	Sub Sub Comp.	Fields	Data	Data Type	Sample Data
	→	→	→	/Attrb				
	→	→	→	/InstrmtExt				
<p>The number of Price Movement blocks is determined by the number of distinct sets of Price Movement Values. A Price Movement block will be present for each group of price movements and will contain the associated Clearing Account Types. All Price Movement Value blocks will repeat 10 times, identifying five price points up and down (e.g., -5, -4, -3, -2, -1, 1, 2, 3, 4, 5).</p>								
	→	→	→	PxMvmnt				
	→	→	→	PxMvmntValu				
1922					Pnt	Price Movement Point	Integer	-1
1921					Valu	Price Movement Value	Float	129.960
1923					Typ	Price Movement Type: 0 = Amount	Integer	1
	→	→	→	/PxMvmntValu				
	→	→	→	ClrAcctTyp				
1816					ClrAcctTyp	Clearing Account Type for the Price Movement Group 1 = Customer 2 = Firm 3 = Market Maker	Integer	1
	→	→	→	/ClrAcctTyp				
	→	→	→	/PxMvmnt				
	→	→	→	/SecL				
	/SecList							

## Sample Message – RBH Series/Contract – Future Contract

```
<SecList ListTyp="110" ListID="19048039" BizDt="2014-05-16">
  <SecL Ccy="USD">
    <Instrmt Desc="CBOE VOLATILITY INDEX FUTURE" SecTyp="FUT" Sym="VX" MMY="20140917" MatDt="2014-
    09-17" ID="VXU14" Src="8">
      <AID AltID="5000164" AltIDSrc="RBHP" />
    </Instrmt>
    <InstrmtExt>
      <Attrb Typ="104" Val="16.550" />
    </InstrmtExt>
    <PxMvmnt>
      <PxMvmntValu Valu="496.500" Pnt="1" Typ="0" />
      <PxMvmntValu Valu="993.000" Pnt="2" Typ="0" />
      <PxMvmntValu Valu="1489.500" Pnt="3" Typ="0" />
      <PxMvmntValu Valu="1986.000" Pnt="4" Typ="0" />
      <PxMvmntValu Valu="2482.500" Pnt="5" Typ="0" />
      <PxMvmntValu Valu="-496.500" Pnt="-1" Typ="0" />
      <PxMvmntValu Valu="-993.001" Pnt="-2" Typ="0" />
      <PxMvmntValu Valu="-1489.501" Pnt="-3" Typ="0" />
      <PxMvmntValu Valu="-1986.001" Pnt="-4" Typ="0" />
      <PxMvmntValu Valu="-2482.501" Pnt="-5" Typ="0" />
      <ClrAcctTyp ClrAcctTyp="2" />
      <ClrAcctTyp ClrAcctTyp="3" />
    </PxMvmnt>
  </SecL>
</SecList>
```

---

## Appendix

### Revision History

Version	Date	Version Updates
1.1	7/31/2013	<ul style="list-style-type: none"><li>• FIXML schema change: Reorder Undly to come before Stip in the Message Layout tables and sample FIXML messages.</li><li>• Change references to "FMS Products file" to read "FMS Theoretical file".</li><li>• Change references to "OTC Products file" to read "OTC Theoretical file".</li></ul>
1.2	6/30/2014	<ul style="list-style-type: none"><li>• Remove references to NYL.</li><li>• Update cover page logo.</li></ul>
1.3	12/18/2014	Update Implementation Considerations section regarding outbound file naming for pull recipients.
1.4	4/25/2015	Additional updates to Implementation Considerations section regarding outbound file naming for pull recipients.
1.5	2/23/2016	<ul style="list-style-type: none"><li>• For RBH/CPM Product transmissions for Options, Futures, and Securities, add a Leverage Ratio/Market Move Adjustment Factor type parameter.</li><li>• For RBH/CPM Product transmissions for Securities, add Security Instrument Block subtype "FMS".</li><li>• Remove references to converting from using flat files to using FIXML files.</li><li>• Adjust FMS Translation Layout descriptions.</li></ul>
1.6	8/23/2018	Apply rebranding updates.
1.7	2/27/2020	Correct sample message for RBH/CPM Product – Securities (Stocks, ETFs, ETNs, & Indices)
1.8	04/8/2020	Removed pilot program sentence from page 10.
1.9	11/15/2021	For the Foreign Marginable Securities (FMS) Program Decommission, removed all FMS references throughout the document. For the "RBH/CPM Theoretical File (Non Proprietary)" bullet list item on page 6, changed "eligible products" to "included products."