TAQ Databases

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CHAPTER 1
TAQ Overview

TAQ Products

LIM offers three TAQ products:

1. TAQ Millisecond Database
2. TAQ Minute Bar Database
3. TAQ Daily Value Database

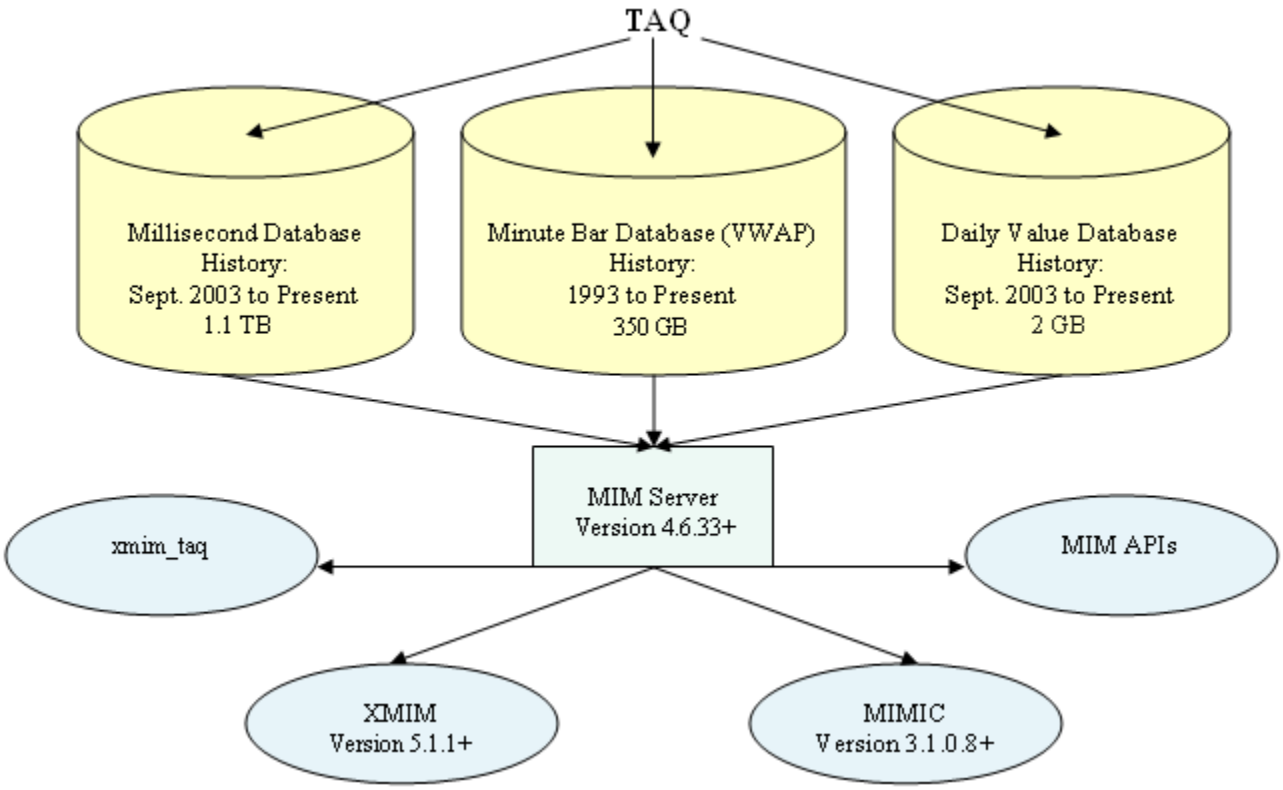
There are two subscriptions available:

1. TAQ Millisecond Database
2. TAQ Minute Bar Database

Either of these subscription choices includes the TAQ Daily Value Database. The Daily TAQ Historical Trades & Quote data from NYSE provides users access to all trades and quotes in NYSE-listed and non-listed securities for the previous trading day, loaded in millisecond format. LIM takes the raw tick data from NYSE and adds value by computing the minute bar and daily frequency values.

The TAQ subscription includes the TAQ Master File that supplies details about the Daily TAQ Historical Trades and Quote data such as what exchange the symbols trade on, issue type, settlement dates etc.

The TAQ data is accessible via the LIM API's and client application products including XMIM, MIMIC and the Excel Add-in software. For more information on the data supplied, see the Daily TAQ (Historical Trades & Quotes) web page on the NYSEData.com website.



Prior to September 2003, the TAQ Minute Bar data was supplied from the TAQ CDs. For details, see Chapter 3, "TAQ Database (1993 TAQ CDs)".

TAQ Coverage	
1993 TAQ CDs	Minute Bar and Daily
2003 Daily TAQ Historical Trades and Quotes	Minute Bar, Daily and Millisecond

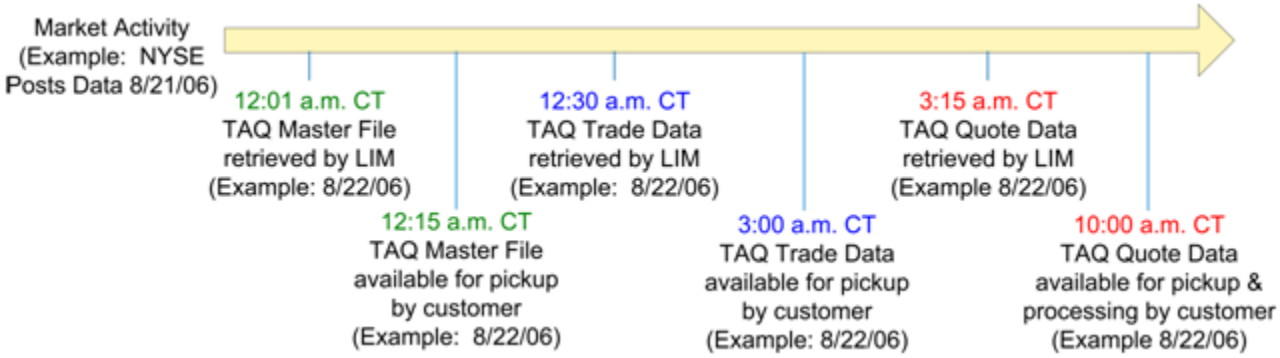
How to Order

Clients must have a subscription with NYSE TAQ to receive the data from LIM. To setup a NYSE TAQ subscription and order the TAQ dataset, please contact a LIM sales representative at sales@lim.com.

Your LIM sales representative can also help you learn how to connect the MIM Prime for real-time capture of market data.

Delivery Schedule

The following shows the delivery and pickup schedule for the TAQ datasets:



Requirements for TAQ Data

In order to use the TAQ data you will need to meet the following requirements:

Hardware Requirements

For more details on these hardware requirements, please see the MIM Server Platform Requirements page on the LIM website. All specifications are subject to change without notice.

Minute Bar

- High Performance MIM Server - 8 cores - 16 GB - 2.7 TB MIM Storage - Solaris 10

Millisecond

- Ultra Performance MIM Server - 8 cores - 32 GB - 5.4 TB MIM Storage - Solaris 10

MIM Server Version

The MIM server version required for millisecond support is: MIM server version 4.6.33 or higher

Client Software Versions

The following shows the client software versions required for the TAQ Daily data:

- MIMIC
- XMIM Version 5.1.0 or higher
- MIM Excel Add-in

For disk space, LIM recommends 2.5 TB of disk space for the full Daily TAQ offering which includes 1.5 TB total history and allows for 300 GB of growth per year for a 2 year plan.

CHAPTER 2
Daily TAQ Historical Trades & Quotes

The Daily TAQ Trade and Quote millisecond data is comprised of approximately 10,800 symbols. Due to the large size, the TAQ data is broken into ten subset databases by a quote liquidity sample. The following lists the databases and contains links to Excel files listing the symbols in each database:

- data.taq [trade/quote] m01 - "First 150"
- data.taq [trade/quote] m02 - "Next 150"
- data.taq [trade/quote] m03 - "Next 150"
- data.taq [trade/quote] m04 - Split by 8% of total data volume
- data.taq [trade/quote] m05 - Split by 8% of total data volume
- data.taq [trade/quote] m06 - Split by 8% of total data volume
- data.taq [trade/quote] m07 - Split by 8% of total data volume
- data.taq [trade/quote] m08 - Split by 8% of total data volume
- data.taq [trade/quote] m09 - Split by 8% of total data volume
- data.taq [trade/quote] m00 - “default/least trading(liquid), new and suffix symbols"

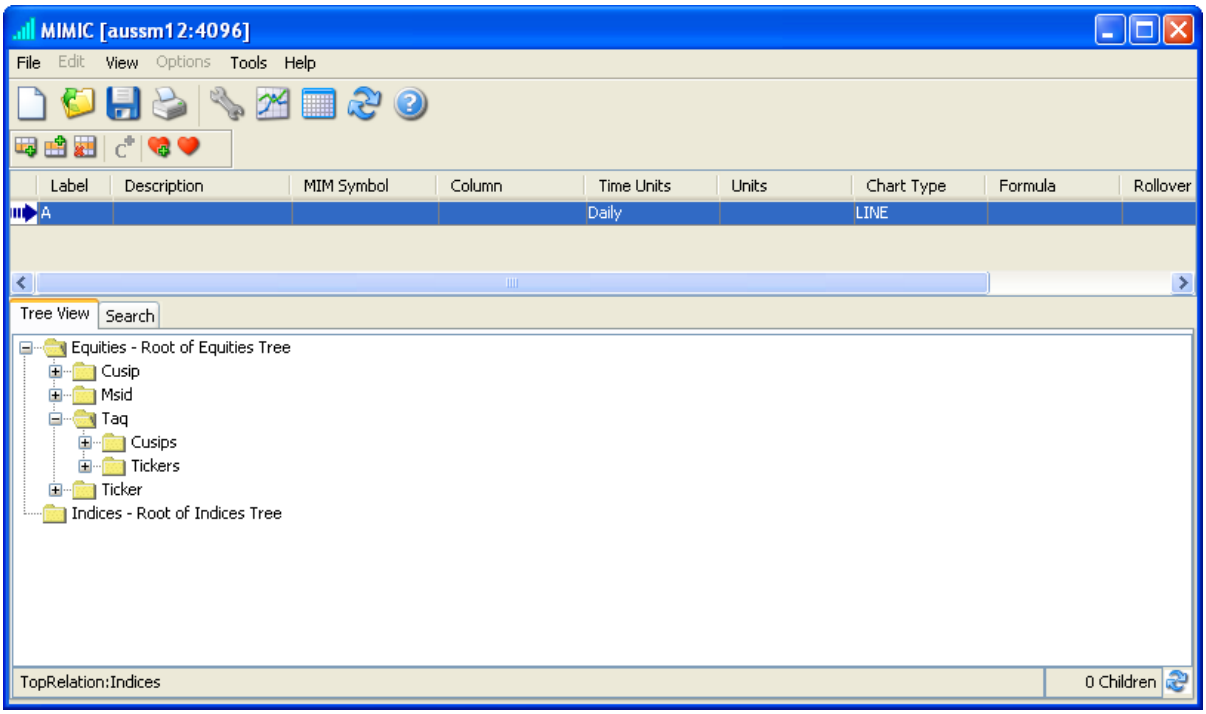
Paths for Daily TAQ Trade and Quote Data

The Daily TAQ data is accessible in the database by cusip and by ticker[1]. LIM assigns an alias symbol ticker name and cusip name to each symbol.

Path in the database for Minute Bar data:

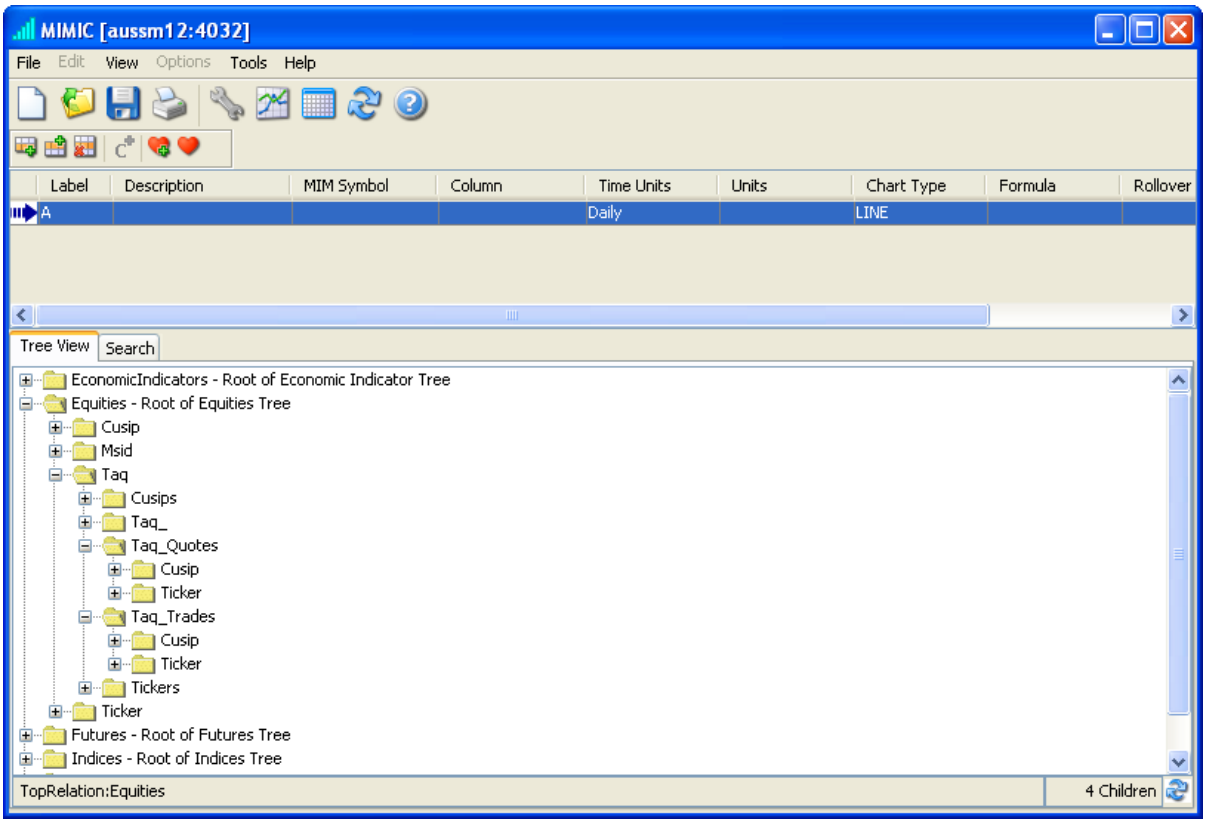
- Equities:Taq:Cusips
- Equities:Cusip
- Equities:Taq:Tickers
- Equities:Ticker

1 LIM maintains reference data on symbol names, cusips, symbol descriptions, aliases, and the date admitted trading for all symbols seen in the master reference files. When a new file comes in, each line of the file is compared to the values in the reference data to determine if values have changed for an existing symbol, if a new symbol has appeared, or if an old symbol has retired. The reference data is updated accordingly. From the reference data, LIM creates unique numbers that form the MIM symbols for the trade and quote data (e.g. ID 36456 becomes TQT.36456 and TQQ.36456). The aliases from the reference data are assigned to the MIM symbols (TQT.DELL -> TQT.36456, TQQ.DELL -> TQQ.36456). The unique LIM ID symbols are hidden by the system and are only viewable using BMIM. Each data file is named after its original internal LIM ID number.



Path in the database for Millisecond data:

- Equities:Taq:Taq_Quotes:Cusip
- Equities:Taq:Taq_Trades:Cusip
- Equities:Cusip
- Equities:Taq:Taq_Quotes:Ticker
- Equities:Taq:Taq_Trades:Ticker
- Equities:Ticker


MIMIC [aussm12:4032]
File Edit View Options Tools Help
Label Description MIM Symbol Column Time Units Units Chart Type Formula Rollover
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Tree View Search
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Equities - Root of Equities Tree
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Tickers
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Futures - Root of Futures Tree
Indices - Root of Indices Tree
TopRelation:Equities
4 Children

Symbol Structure for Daily TAQ Milli Trade and Quote Data

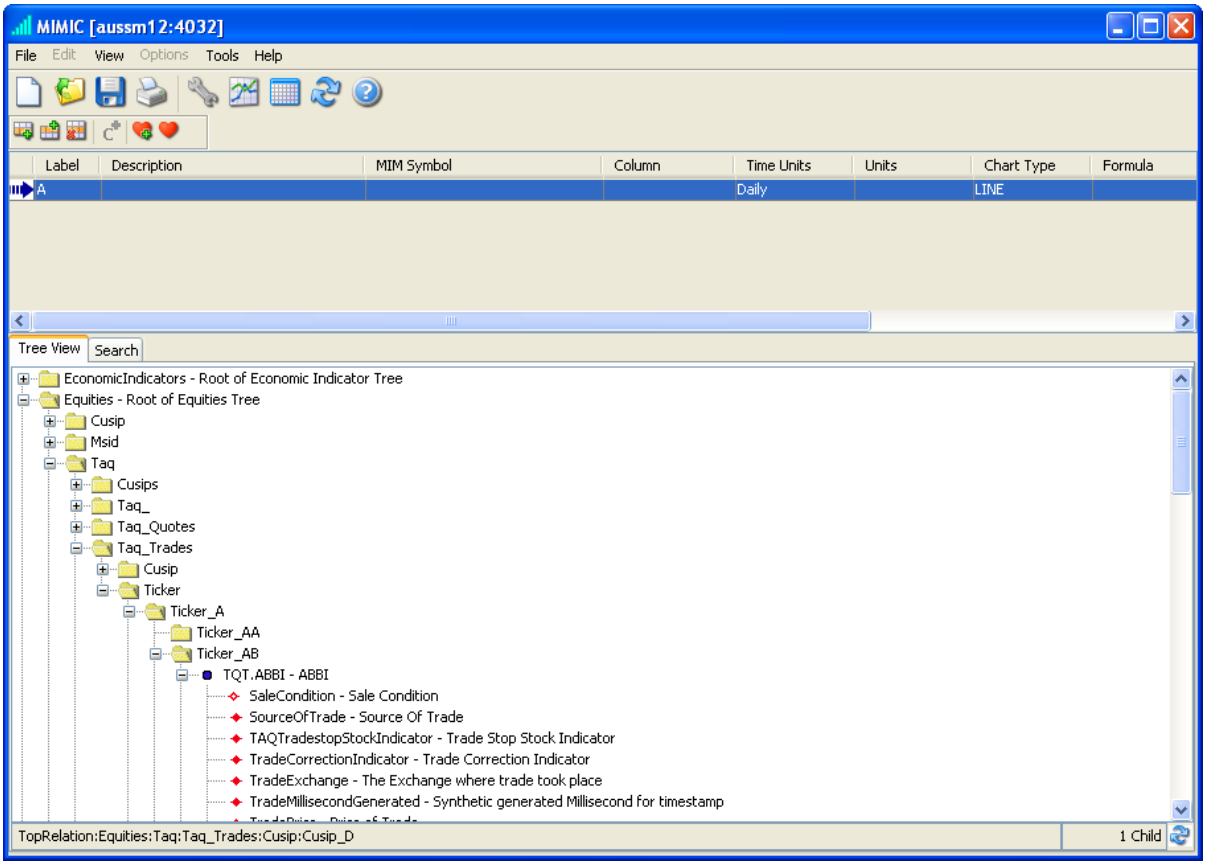
The TAQ Milli data is separated into Trade and Quote categories. The symbols have the following prefixes depending on whether the symbol is a trade or quote:

- TQT. – Trade symbols (listed by ticker or cusip)
- TQQ. – Quote symbols (listed by ticker or cusip)
- TICKER. - Trade and Quote listed by ticker
- CUSIP. - Trade and Quote listed by cusip

Trade Symbol Example by Ticker

The graphic below shows the path to the ABBI Milli Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is TQT.ABBI and the path to the symbol is:

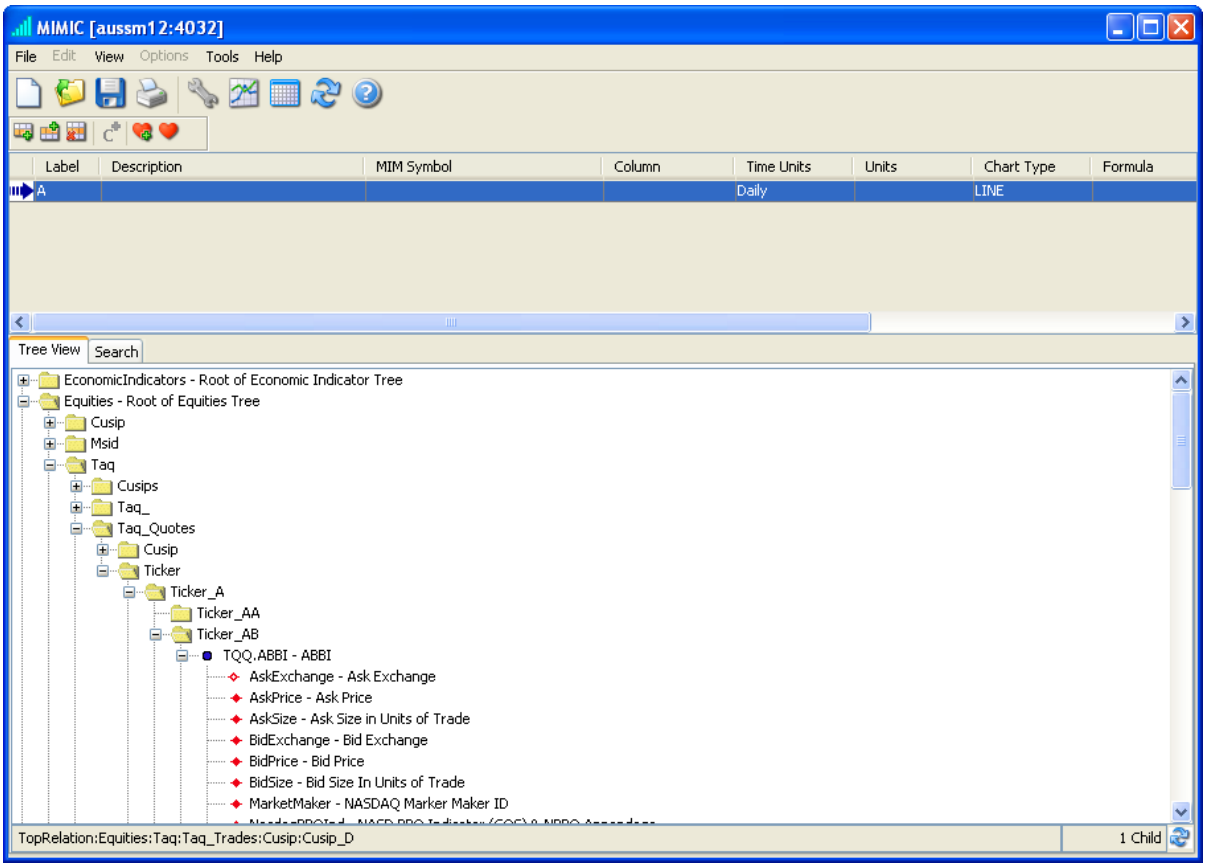
```
TopRelation:Equities:Taq:Taq_Trades:Ticker:Ticker_A:Ticker_AB
```



Quote Symbol Example by Ticker

The graphic below shows the path to ABBI Milli Quote symbol listed by the ticker name using the MIMIC interface. The symbol name is TQQ.ABBI and the path to the symbol is:

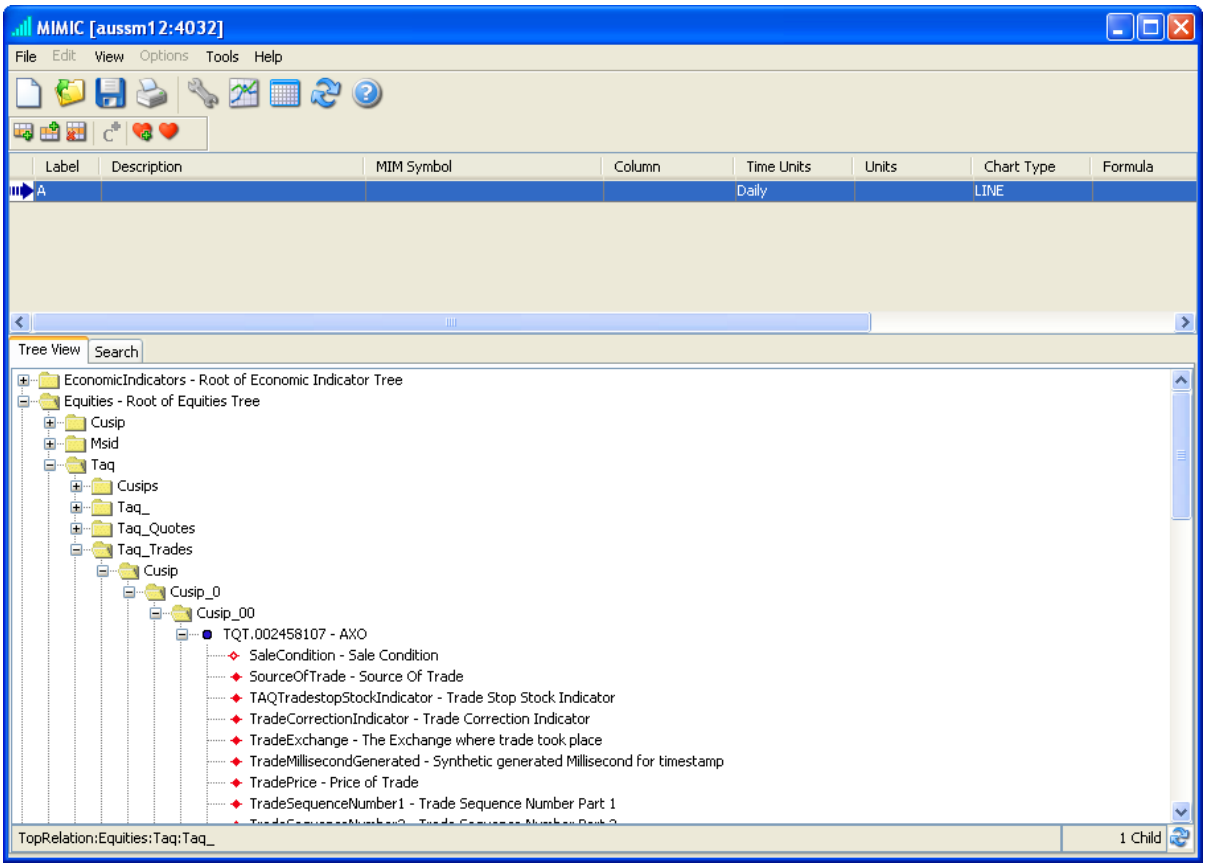
```
TopRelation:Equities:Taq:Taq_Quotes:Ticker:Ticker_A:Ticker_AB
```



Trade Symbol Example by Cusip

The graphic below shows the path to the AXO Milli Trade symbol listed by cusip using the MIMIC interface. The symbol name is TQT.002458107 and the path to the symbol is:

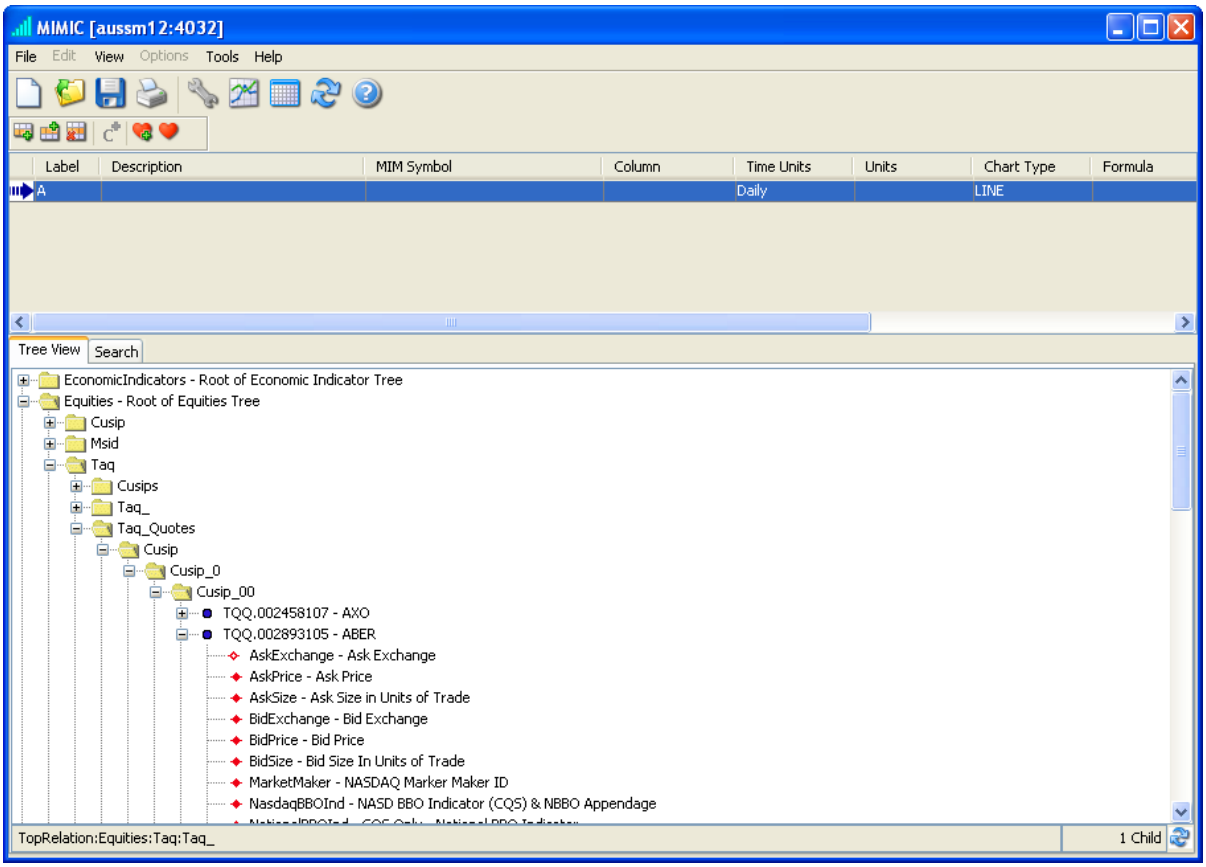
```
TopRelation:Equities:Taq:Taq_Trades:Cusip:Cusip_0:Cusip_00
```



Quote Symbol Example by Cusip

The graphic below shows the path to the ABER Quote symbol listed by cusip using the MIMIC interface. The symbol name is TQQ.002893105 and the path to the symbol is:

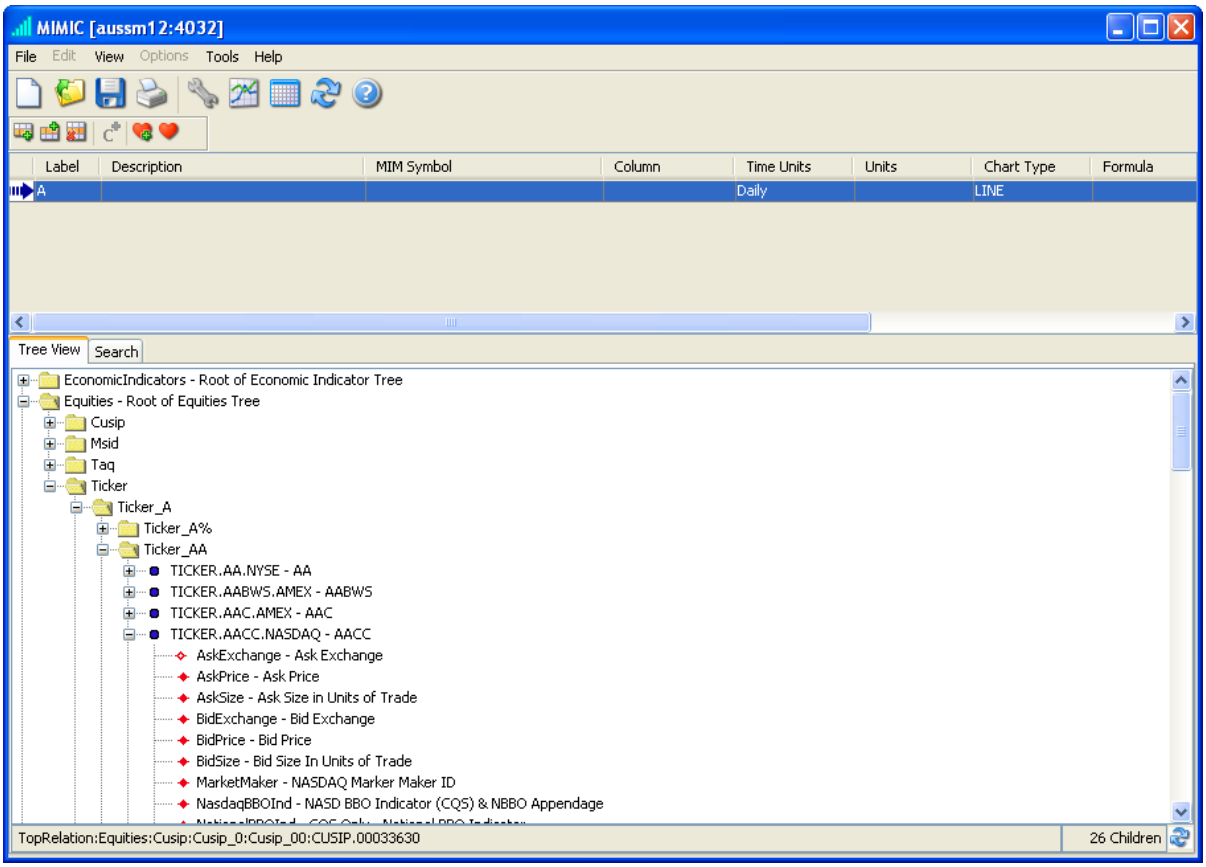
```
TopRelation:Equities:Taq:Taq_Quotes:Cusip:Cusip_0:Cusip_00
```



Trade and Quote Example by Ticker

The graphic below shows the path to the AACC Milli Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is TICKER.AACC.NASDAQ and the path to the symbol is:

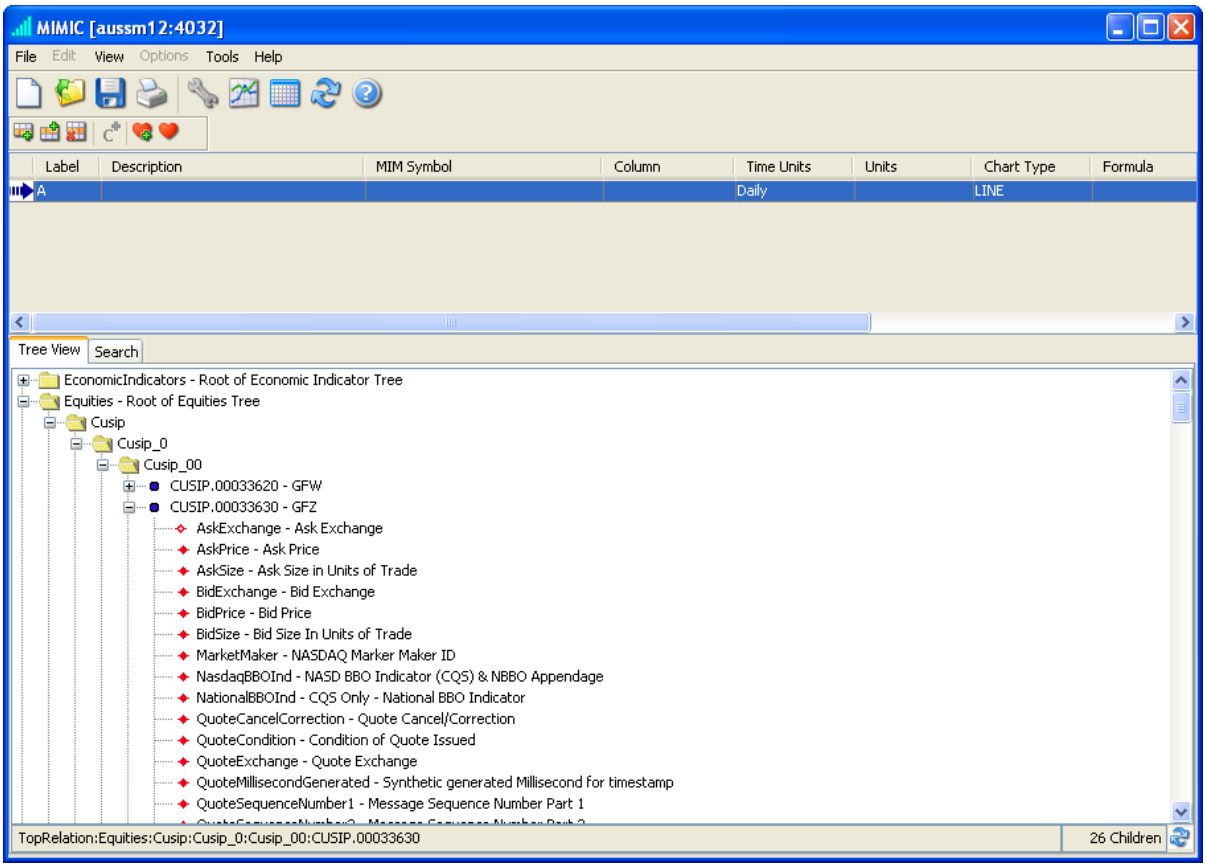
```
TopRelation:Equities:Ticker:Ticker_A:Ticker_AA
```



Trade and Quote Example by Cusip

The graphic below shows the path to the GFZ Milli Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is CUSIP.00033630 and the path to the symbol is:

```
TopRelation:Equities:Cusip:Cusip_0:Cusip_00
```



Symbol Structure for Daily TAQ Minute Bar Trade and Quote Data

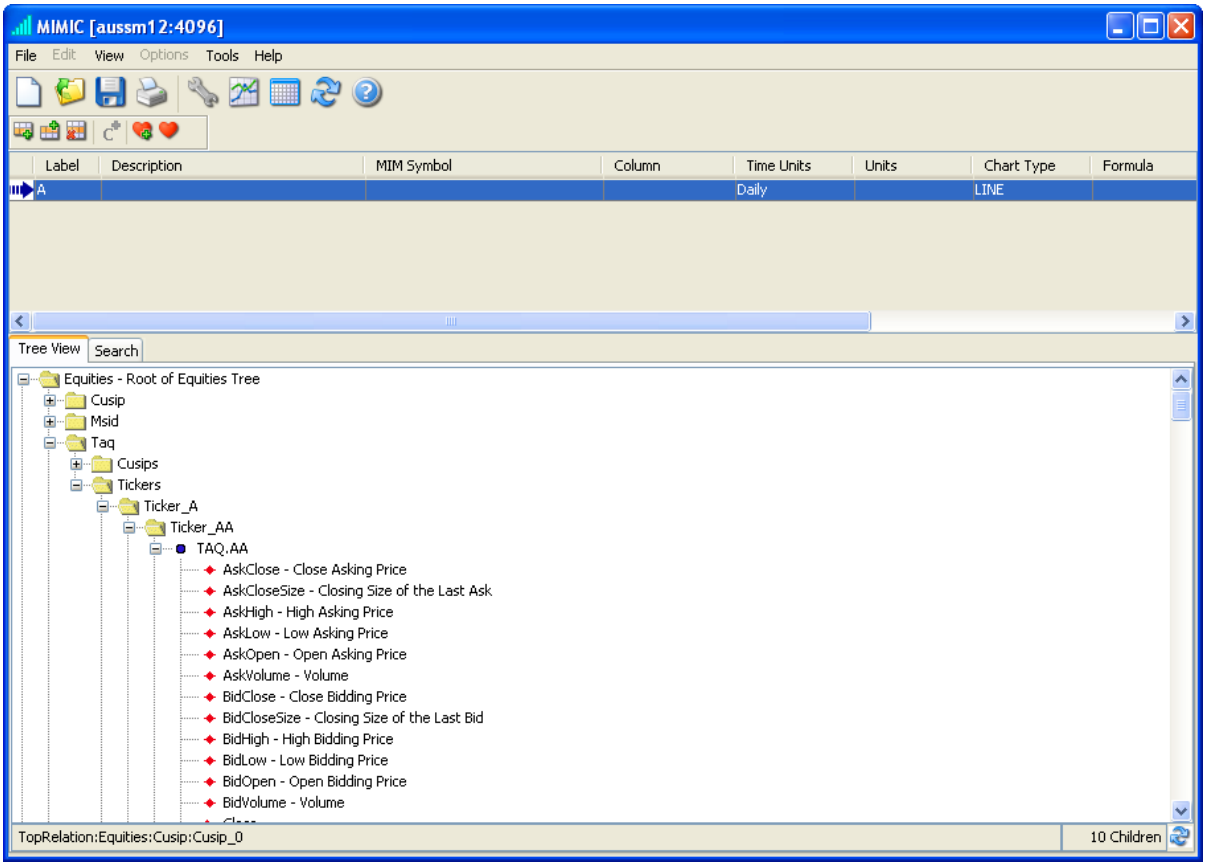
The TAQ Minute Bar data combines the trading and quote categories. The symbols have the following prefixes:

- TAQ. – All symbols
- TICKER. – All symbols

TAQ Symbol Example by Ticker

The graphic below shows the path to the AA Minute Bar Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is TAQ.AA and the path to the symbol is:

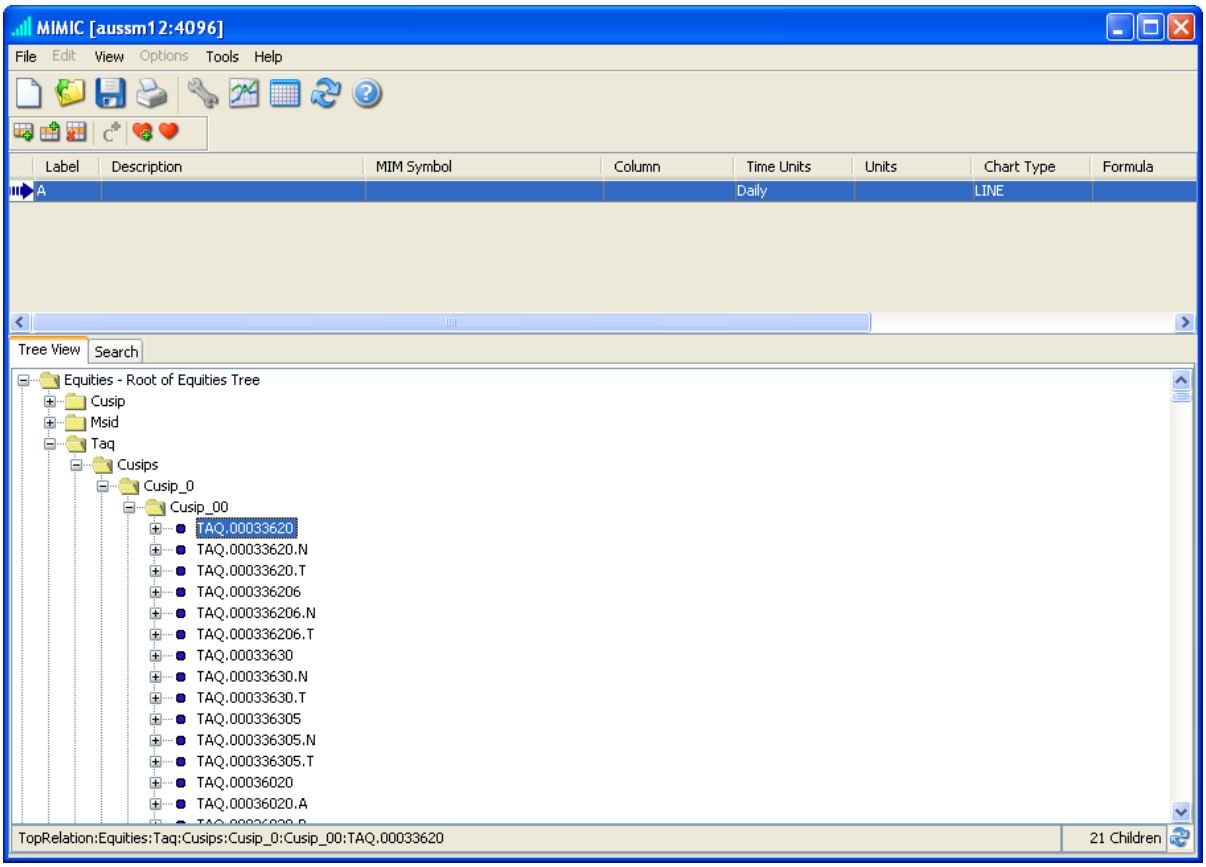
```
TopRelation:Equities:Taq:Tickers:Ticker_A:Ticker_AA
```



TAQ Symbol Example by Cusip

The graphic below shows the path to the TAQ.00033620 Minute Bar Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is TAQ.00033620 and the path to the symbol is:

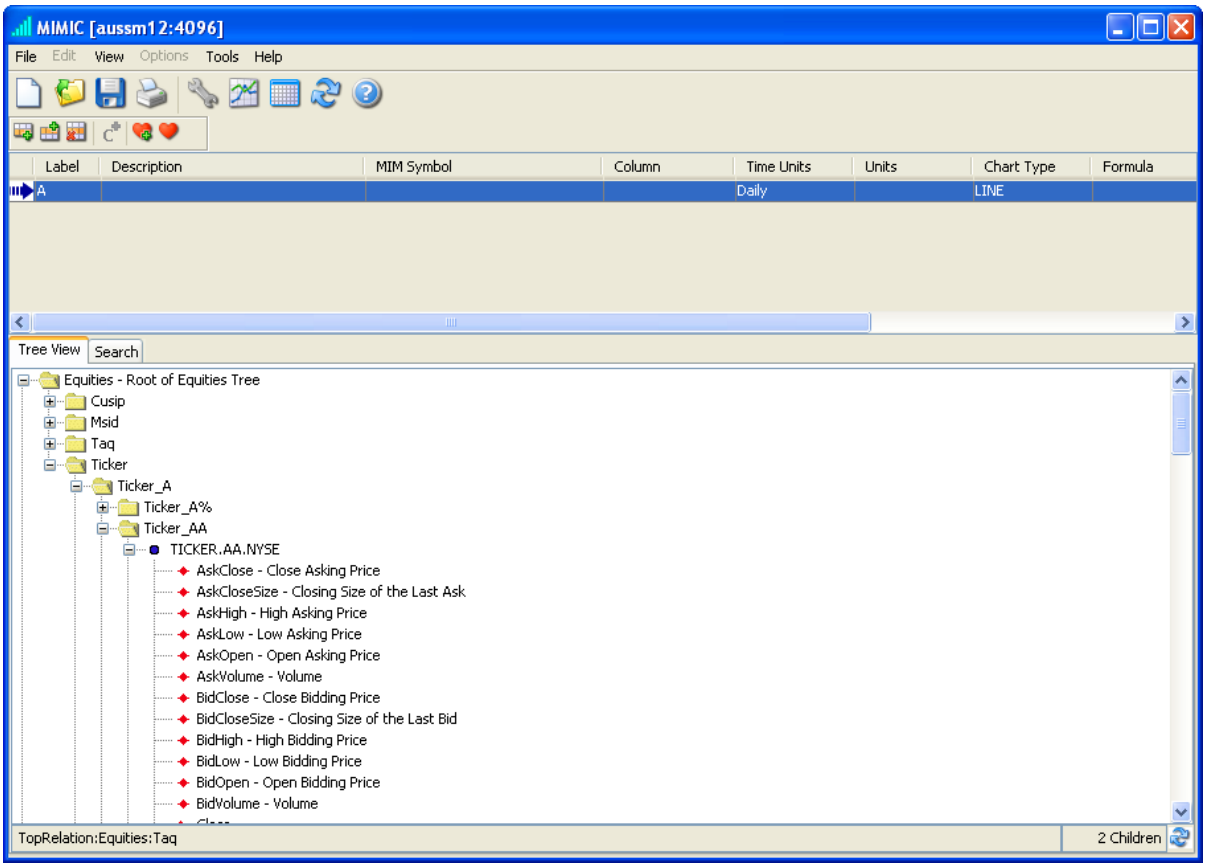
```
TopRelation:Equities:Taq:Cusips:Cusip_0:Cusip_00
```



Equities Symbol Example by Ticker

The graphic below shows the path to the AA Minute Bar Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is TICKER.AA.NYSE and the path to the symbol is:

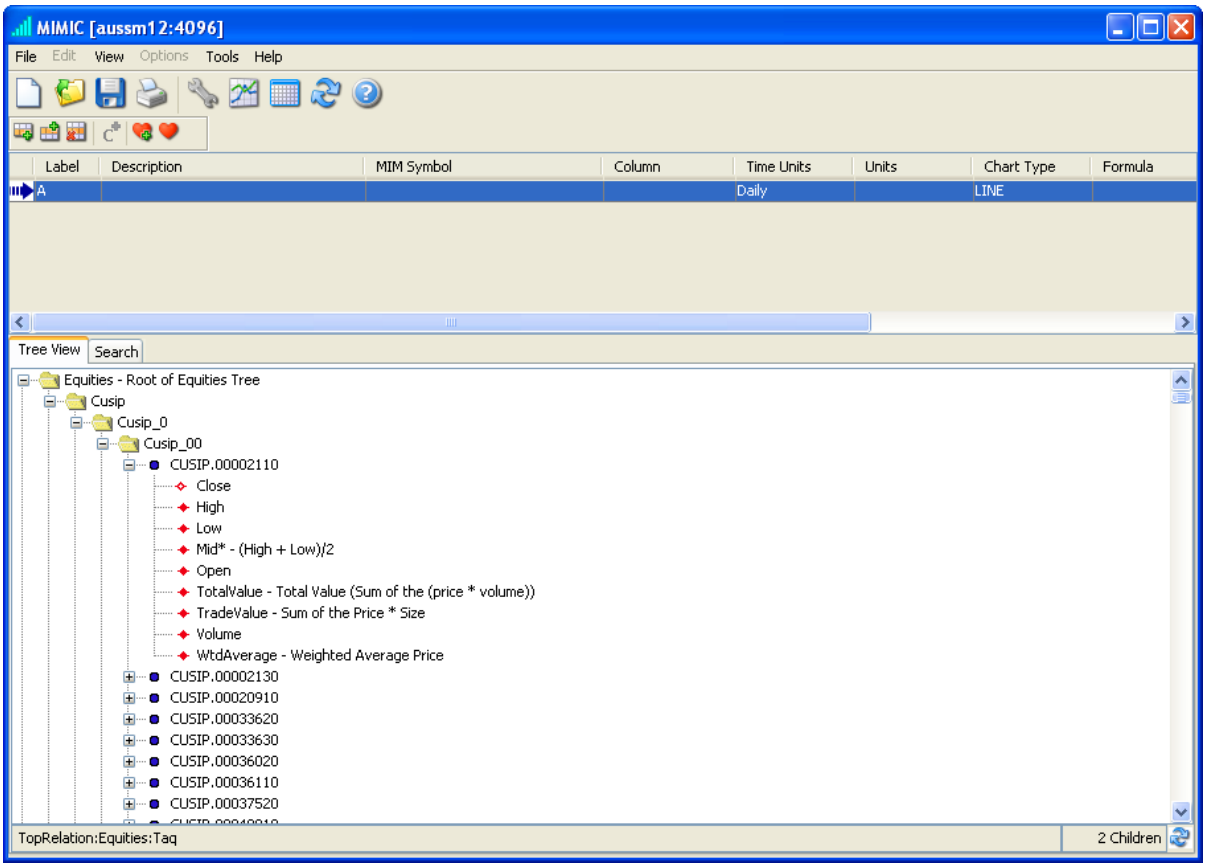
```
TopRelation:Equities:Ticker:Ticker_A:Ticker_AA
```



Equities Symbol Example by Cusip

The graphic below shows the path to the CUSIP.00002110 Minute Bar Trade symbol listed by the ticker name using the MIMIC interface. The symbol name is CUSIP.00002110 and the path to the symbol is:

```
TopRelation:Equities:Cusip:Cusip_0:Cusip_00
```



Column Structure for Daily TAQ Trade Data

The following shows the composite* columns available for the Trade symbols:

Trade Column Name	Trade Column Description
TradeExchange	The Exchange where trade took place. Possible Values: A = American Stock Exchange B = Boston Stock Exchange C = National (Cincinnati) Stock Exchange D = National Association of Securities Dealers (ADF) E = Market Independent (SIP - Generated) I = The Island, ECN M = Chicago Stock Exchange N = New York Stock Exchange P = Pacific Exchange T/Q = NASDAQ Stock Exchange S = Consolidated Tape System X = Philadelphia Stock Exchange W = CBOE
SaleCondition	A Sale Condition (applies to all exchanges). Up to four codes are displayed per trade: Possible Values: = CTS ISSUES @) = Regular Sale (no condition) A = Cash (only) Market B = Average Price Trade C = Cash Trade (same day clearing) D = Next Day (only) Market E = Automatic Execution F = Burst Basket Execution G = Opening/Reopening Trade Detail H = Intraday Trade Detail I = Basket Index on Close Transaction J = Rule 127 trade (NYSE only) K = Rule 155 trade (AMEX only) L = Sold Last (late reporting) N = Next Day Trade (next day clearing) O = Opened (late report of opened trade) R = Seller S = Reserved T = Pre/Post Market Trade Z = Sold (out of sequence) = NASD ISSUES @ = Regular Trade A = Acquisition B = Bunched Trade C = Cash Trade D = Distribution G = Bunched Sold Trade K = Rule 155 Trade (AMEX Only) L = Sold Last M = Market Center Close Price N = Next Day O = Opened

Trade Column Name	Trade Column Description
	P = Prior Reference Price Q = Market Center Open Price R = Seller (Long-Form Message Formats Only) S = Split Trade T = Form - T Trade U = Extended Hours (Sold Out of Sequence) W = Average Price Trade Z = Sold (Out of Sequence) 1 = Stopped Stock - Regular Trade 2 = Stopped Stock - Sold Last 3 = Stopped Stock - Sold Last 3 = Stopped Stock - Sold (Out of Sequence)
TradeVolume	Volume of trade
TradePrice	Price of trade, 11 characters
TAQTradestopStockIndicator	Value indicates that this Trade (NYSE Only) is indicated as a Stop Stock. Possible Values: Blank = N/A (Correction or NASDAQ) N = Not Indicated as Stop Stock Y = Indicated as Stop Stock
TradeCorrectionIndicator	Trade Correction Indications Possible Values: 00 = Regular trade which was not corrected, changed or signified as cancel or error 01 = Original trade which was late rcorrected (This record contains the original time - HHMM and the corrected data for the trade) 07 = Original trade which was later signified as error 08 = Original trade which was later signified as error 10 = Cancel record (This record follows '08' records) 11 = Error record (This record follows '07' records) 12 = Correction record (This record follows '01' records and contains the correction time and the original "incorrect" data)
TradeSequenceNumber1	Order the trade was received. (First 8 digits of sequence number.)
TradeSequenceNumber2	Order the trade was received. (Last 8 digits of sequence number.)
SourceOfTrade	Source of Trade Message Possible Values: C = CTS N = NASDAQ NTDS

Column Structure for Daily Quote Data

The following shows the composite[2] columns available for the Quote symbols:

Quote Column Name	Quote Column Description
QuoteExchange	The Exchange that issued the quote
BidPrice	Bid price, 11 characters
BidSize	Bid size in units of trade, 7 characters
AskPrice	Ask price, 11 characters
AskSize	Ask size in units of trade, 7 characters
QuoteCondition	Condition of Quote issued
MarketMaker	NASDAQ Market Maker ID, 4 characters
BidExchange	A = American Stock Exchange B = Boston Stock Exchange C = National (Cincinnati) Stock Exchange D = National Association of Securities Dealers (ADF) E = Market Independent (SIP - Generated) I = The Island, ECN M = Chicago Stock Exchange N = NYSE P = Pacific Exchange T/Q = NASDAQ Stock Exchange S = Consolidated Tape System X = Philadelphia Stock Exchange W = CBOE
AskExchange	A = American Stock Exchange B = Boston Stock Exchange C = National (Cincinnati) Stock Exchange D = National Association of Securities Dealers (ADF) E = Market Independent (SIP - Generated) I = The Island, ECN M = Chicago Stock Exchange N = NYSE P = Pacific Exchange T/Q = NASDAQ Stock Exchange S = Consolidated Tape System X = Philadelphia Stock Exchange W = CBOE
QuoteSequenceNumber1	Order the quote was received. (First 8 digits of sequence number.)
QuoteSequenceNumber2	Order the quote was received. (Last 8 digits of sequence number.)
NationalBBOInd	CQS Only - National BBO Indicator 0 = No National BBO change - Current quote does not affect the BBO. No National appendage is required. 1 = Quote Contains all National BBO Information - Current quote is itself the new National BBO. No National appendage is required.

2 The columns for the Trade, Quote and Master File data are composite in nature. For more information on composite columns please see the *MIM Data and Development Guide*.

Quote Column Name	Quote Column Description
	2 = No National BBO - There is no calculation of National BBO such as before Market Open or after Market Close. No National appendage is required. 4 = Long Format of National BBO Appendage - A new National BBO is generated and the new BBO information is contained in the Long National BBO appendage. 6 = Expanded Price Short Format of National BBO Appendage - a new National BBO is generated and the new BBO information is contained in the Expanded Price Short National BBO appendage.
NasdaqBBOInd	NASD BBO INDICATOR (CQS) & NBBO APPENDAGE INDICATOR (NASDAQ) All Issues when Applicable 0 = No NASD BBO Change, current quote does not affect the BBO. No NASD appendage is required. 1 = Quote Contains all NASD BBO Information - Current quote is itself the new NASD BBO. No NASD appendage is required. 2 = No NASD BBO - There is no calculation of NASD BBO such as before Market Open or after Market Close. No NASD appendage is required. 3 = NASD BBO Appendage - A new NASD BBO is generated and the new BBO information is contained in the NASD BBO appendage. NASDAQ 0 = No National BBO change - Current quote does not affect the BBO. No National appendage is required. 1 = No National BBO Can be Calculated- The National BBO cannot be calculated therefore vendors should show National BBO fields as blank. No Appendage is required. 2 = Short Form National BBO Appendage Attached – A new National BBO was generated as a result of the UTP participant's quote update and the new information is contained in the short form appendage (NBBO FILE) 3 = Long Format of National BBO Appendage - A new National BBO is generated and the new BBO information is contained in the Long National BBO appendage (NBBO FILE) 4 = Quote Contains all NASD BBO Information - Current quote is itself the new NASD BBO. No NASD appendage is required.
QuoteCancelCorrection	CQS ONLY A = Not a Cancel Quote B = Cancel quote/Cancel Price Indication/ Cancel Trading Range Indication C = Corrected Price Indication
SourceOfQuote	C= CQS, N= NASDAQ

Viewing Composite Columns using BMIM

To view the composite columns, use the BMIM command print_schema. For instructions on using print_schema, see the "Printing Database Schema Information" section in the *MIM Data and Development Guide*.

Suffixes for Daily TAQ Trade and Quote Symbols

Some of the data symbols are followed by a "." and a suffix. . The following describes the suffixes used:

Suffix	Description	MIM Symbol Examples
<v>	<v> represents a character; Series (or Class) A-T & V-Z; Examples include the following: ZZZ A is the same as ZZZ/A ZZZ T is the same as ZZZ/T	TQT.BBI.B TQQ.BBI.B
<v>CL	Series (or Class) A-T & V-Z Called; Example includes the following: ZZZ ACL is the same as ZZZ/A/CL	TQT.ACX.BCL TQQ.ACX.BCL
<v>CV	Series (or Class) A-T & V-Z Convertible; Example includes the following: ZZZ ACV is the same as ZZZ/A/CV	TQT.ADB.CCV TQQ.ADB.CCV
<v>WI	Series (or Class) A-T & V-Z When Issued; Examples include the following: ZZZ AWI is the same as ZZZ/Aw	TQT.STZ.BWI TQQ.STZ.BWI
CL	Called. Examples include the following: ZZZ CL is the same as ZZZ/CL	TQT.VEA.CL TQQ.VEA.CL
CT	Certificates. Examples include the following: ZZZ CT is the same as ZZZ/CT	TQT.AEB.CT TQQ.AEB.CT
CV	Convertible. Examples include the following: ZZZ CV is the same as ZZZ/CV (ZZZ/CV)	TQT.LSV.CV TQQ.LSV.CV
CVR	Contingent Value Right. Examples include the following: ZZZ CVR is the same as ZZZ/CVR	TQT.MBA.CVR TQQ.MVA.CVR
CVCL	Convertible Called. Examples include the following: ZZZ CVCL is the same as ZZZ/CV/CL	TQT.MCJ.CVCL TQQ.MCJ.CVCL
DP	Amount of most recent dividend to go "ex-distribution". Example includes the following: ZZZ DP is the same as ZZZ/DP	TQT.MMB.DP TQQ.MMB.DP
DV	Accumulated dividend per share, net of expenses, through and including the previous day's close of trading Example includes the following: ZZZ DV is the same as ZZZ/DV	TQT.SMM.DV TQQ.SMM.DV
EC	Emerging Company Marketplace. Example includes the following: ZZZ EC is the same as ZZZ/EC	TQT.SNDB.EC TQQ.SNDB.EC
EU	Estimated cash amount for creation unit. Example includes the following: ZZZ EU is the same as ZZZ/EU	TQT.SYMA.EU TQQ.SYMA.EU

Suffix	Description	MIM Symbol Examples
FN	Foreign News. Example includes the following: ZZZ FN is the same as ZZZ/F/N	TQT.TSCP.FN TQQ.TSCP.FN
ID	Index – differentiates an index from a stock with the same root symbol. Example includes the following: III ID is the same as III/ID	TQT.WA.ID TQQ.WA.ID
IV	Intra-day Net Asset Value per share. Example includes the following: ZZZ IV is the same as ZZZ/IV	TQT.DILD.IV TQQ.DILD.IV
NV	Net Asset Value per share, as of the close on the previous trading day. Example includes the following: ZZZ NV is the same as ZZZ/NV	TQT.FRMA.NV TQQ.FRMA.NV
PP	Partial Paid. Example includes the following: ZZZ PP is the same as ZZZ/PP	TQT.LNA.PP TQQ.LNA.PP
PTCL	Part Called. Example includes the following: ZZZ PTCL is the same as ZZZ/PT/CL	TQT.LOGM.PTCL TQQ.LOGM.PTCL
PR	Preferred. Example includes the following: ZZZ PR is the same as ZZZp	TQT.AA.PR TQQ.AA.PR
PR<v>	<v> represents a character; Preferred Series A-T & V-Z; Examples include the following: ZZZ PRA is the same as ZZZpA ZZZ PRB is the same as ZZZpB	TQT.ABN.PRF TQQ.ABN.PRF
PR<v>CL	<v> represents a character; Preferred Series A-T & V-Z Called; Examples include the following: ZZZ PRACL is the same as ZZZpA/CL ZZZ PRBCL is the same as ZZZpB/CL	TQT.AAG.PRTCL TQQ.AAG.PRTCL
PR<v>CV	<v> represents a character; Preferred Series A-T & V-Z Convertible; Examples include the following: ZZZ PRACV is the same as ZZZpA/CV ZZZ PRBCV is the same as ZZZpB/CV	TQT.LOQ.PRMCV TQQ.LOQ.PRMCV
PR<v>WI	<v> represents a character; Preferred Series A-T & V-Z When Issued; Examples include the following: ZZZ PRAWI is the same as ZZZpAw ZZZ PRBWI is the same as ZZZpBw	TQT.FNA.PRHWI TQQ.FNA.PRHWI
PRWI	Preferred When Issued; Examples include the following: ZZZ PRWI is the same as ZZZpw	TQT.RIO.PRWI TQQ.RIO.PRWI
PRCL	Preferred Called; Examples include the following: ZZZ PRCL is the same as ZZZp/CL	TQT.CVE.PRCL TQQ.CVE.PRCL

Suffix	Description	MIM Symbol Examples
PRCV	Preferred Convertible; Examples include the following: ZZZ PRCV is the same as ZZZp/CV	TQT.OCB.PRCV TQQ.OCB.PRCV
PRWD	Preferred When Distributed; Examples include the following: ZZZ PRWD is the same as ZZZp/WD	TQT.EDG.PRWD TQQ.EDG.PRWD
PRC<v>	Indicates Class A; could also be B-K and M-S; Second Category of Preferred; Examples include the following: ZZZ PRCA is the same as ZZZpCA ZZZ PRCB is the same as ZZZpCB	TQT.GAM.PRCL TQQ.GAM.PRCL
RT	Rights. Examples include: ZZZ R is the same as ZZZr	TQT.USG.RT TQQ.USG.RT
RWI	Rights When Issued. Examples include: ZZZ RWI is the same as ZZZrw	TQT.DSR.RWI TQQ.DSR.RWI
SC	Small Corporate Offering Registration. Example includes the following: ZZZ SC is the same as ZZZ/SC	TQT.GLM.SC TQQ.GLM.SC
SP	Special. Example includes the following: ZZZ SP is the same as ZZZ/SP	TQT.GNO.SP TQQ.GNO.SP
SD	Stamped. Example includes the following: ZZZ SD is the same as ZZZ/SD	TQT.MHMA.SD TQQ.MHMA.SD
SO	Current shares outstanding in thousands. Example includes the following: ZZZ SO is the same as ZZZ/SO	TQT.MIH.SD TQQ.MIH.SD
TC	Total cash amount per creation unit in thousands. Example includes the following: ZZZ TC is the same as ZZZ/TC	TQT.RVS.TC TQQ.RVS.TC
TEST	Exclusive suffix used for intraday test message. Example includes the following: ZZZ TEST is the same as ZZZ/TEST	TQT.SVD.TEST TQQ.SVD.TEST
TT	Tier II Securities Example includes the following: ZZZ TT is the same as ZZZ/TT	TQT.TZB.TT TQQ.TZB.TT
U	Units (a combination of securities composed of two or more of warrants, common stocks, preferred stocks and/or bonds) Example includes the following: ZZZ U is the same as ZZZ/U	TQT.IGC.U TQQ.IGC.U
VR	Variable Common Rights. Example includes the following: ZZZ VR is the same as ZZZ/VR	TQT.UBD.VR TQQ.UBD.VR

Suffix	Description	MIM Symbol Examples
WD	When Distributed. Example includes the following: ZZZ WD is the same as ZZZ/WD	TQT.VIA.WD TQQ.VIA.WD
WI	When Issued. Example includes the following: ZZZ WI is the same as ZZZw	TQT.ABT.WI TQQ.ABT.WI
WS	Warrents. Example includes the following: ZZZ WS is the same as ZZZ/WS	TQT.II.WS TQQ.II.WS
WWS	With Warrants. Example includes the following: ZZZ WWS is the same as ZZZ/W/WS	TQT.CRDO.WWS TQQ.CRDO.WWS
WS<v>	Warrants Series <v>; Series A-T & V-Z. Example includes the following: ZZZ WSA is the same as ZZZ/WSA	TQT.GG.WSC TQQ.GG.WSC
WSWI	Warrants When Issued. Example includes the following: ZZZ WSWI is the same as ZZZ/WSw	TQT.CBIH.WSWI TQQ.CBIH.WSWI

Data Structure for TAQ Master File Data

The TAQ Master file is an information file that supplies details about the symbols traded such as what exchange the symbols are traded on, issue type, settlement dates etc.

The TAQ Master File is distributed in two formats:

- Time Series (described below)
- Original Raw Format Files from NYSE – these raw files come straight from NYSE and are loaded onto your MIM in a designated directory.

The Master File data symbols are the same as for the Trade and Quote data, only the columns are different. Note that the columns are composite in nature. For more information on composite columns please see the *MIM Data and Development Guide*. To view the composite columns, use the BMIM command `print_schema`. For instructions on using `print_schema`, see the "Printing Database Schema Information" section in the *MIM Data and Development Guide*.

The following list was taken from the NYSEData.com website and details the columns available for the TAQ Master File data. For an up-to-date list, please see the Daily TAQ (Historical Trades & Quotes) Web page (select the "Specifications" tab) on the NYSEData.com website.

Column Name	Column Description	Data Type
UnitOfTrading	Unit of Trading	Number
SpecialistClearingAgent	Specialist Clearing Agent	Number
SpecialistClearingNumber	Specialist Clearing Number	Number
SpecialistPostNumber	Specialist Post Number	Number
SpecialistPanel	Specialist Panel	ASCII[a]
ReasonCode	Reason Code	Number
StatusIndicator	Status Indicator	Number
StatusDate	Status Date	Number
DateAdmittedTrading	Date Admitted Trading	Number
DateTradedRegWay	Date Traded Reg Way	Number
DateTradedSettlement	Date Traded Settlement	Number
CcsIndicator	Ccs Indicator	Number
FailClearanceEligible	Fail Clearance Eligible	Number
SourceListedExchange	Source Listed Exchange	Number
SourceInfo	Source Info	Number
LocalInd	Local Ind	Number
ItsIssue	Its Issue	Number
NyseIndustryCode	NYSE Industry Code	Number
SharesOutstanding	Shares Outstanding	Number
UnitOfTrade	Unit of Trade	Number
Denominator	Denominator	Number
IssueType	Issue Type	Number
ListingDate	Listing Date	Number
NyseTradeToday	NYSE Trade Today	Number
AmexTradeToday	AMEX Trade Today	Number
BostonTradeToday	Boston Trade Today	Number
PacificTradeToday	Pacific Trade Today	Number
PhiladelphiaTradeToday	Philadelphia Trade Today	Number
NasdTradeToday	NASDAQ Trade Today	Number
OtcTradeToday	OTC Trade Today	Number

a The MIM does not store letters therefore ASCII code is used to translate these letters into numerical values.

The following lists the ASCII number to letter conversions for all one character text fields:

65 A	72 H	79 O	86 V
66 B	73 I	80 P	87 W
67 C	74 J	81 Q	88 X
68 D	75 K	82 R	89 Y
69 E	76 L	83 S	90 Z
70 F	77 M	84 T	
71 G	78 N	85 U	

How to Access TAQ Historical Trades and Quotes Data

The TAQ data can be accessed using `xmim_taq`, BMIM, XMIM, MIMIC and the C API utility `xmim_get`. The data may also be accessed using any of LIM's APIs. For more information on the APIs see the *MIM Data and Development Guide*.

XMIM_TAQ

The `xmim_taq` utility is located in the xmim/bin directory on the MIM server. The `xmim_taq` utility uses `XmimVaQueryExecute` (for more information on `XmimVaQueryExecute`, see the *MIM Data & Development Guide*) to extract millisecond data from a MIM database. Two formats are provided; Quote and Trade which will reproduce the Quote and Trade TAQ formats, respectively.

Usage:

```
xmim_taq [–q host] [–p server_number] –r num_rels relation -f format –c n column1 column2 [–d mm/
dd/yy]
  [–e mm/dd/yy] [-t hh:mm:ss] [-u hh:mm:ss] [-v] [-a holiday_fill_miss_fill] [-o outfile]
```

Where: (Optional entries are designated with brackets [ ].)

[-h]	Help/Usage
[-q host]	MIM Host Name
[-p server_number]	MIM Port
-r num_rels relation	Number of relations and the relation names to extract
-f format	1=QUOTE stream data 2=Trade stream data 0=Default (requires columns specified)
-c n column1 column2	The number of columns and the column names to extract. (ignored with format 1 and 2)
[-d mm/dd/yy]	The date to start the extraction.
[-e mm/dd/yy]	The date to end the extraction.
[-t hh:mm:ss]	The time to start the extraction.
[-u hh:mm:ss]	The time to end the extraction.
[-v]	Verbose
[-a holiday_fill miss_fill]	Both values (holiday_fill and miss_fill) can be set as follows: -1=XMIM_FILL_INVALID (default) 0=XMIM_FILL_NAN 1=XMIM_FILL_FORWARD 2=XMIM_FILL_BACKWARD 3=XMIM_FILL_INTERP_LIN 4= XMIM_FILL_INTERP_GEO 5= XMIM_FILL_INTERP_LOG 6=XMIM_FILL_NEAREST
[-o outfile]	Print query results to outfile.

Examples:

This example will produce a millisecond Quote stream for Dell for the month of December 2005.

```
xmim_taq -r 1 TQQ.DELL -d 12/01/2005 -e 12/31/2005 -f 1
```

The following example will produce a millisecond Trade stream for Dell for the month of December 2005.

```
xmim_taq -r 1 TQT.DELL -d 12/01/2005 -e 12/31/2005 -f 2
```

The next example will print the millisecond AskPrice data for Dell for the month of December 2005 between the times of 9 a.m. and 2 p.m.

```
xmim_taq -r 1 TQQ.DELL -c 1 AskPrice -d 12/01/2005 -e 12/31/2005 -t 09:00 -u 14:00
```

BMIM

The following example shows how to use BMIM to access the TAQ database.

Sample Query File (milli.query)

```
%exec.units: 1 millisecond
%exec.use.stream.semantics: YES
SHOW 1: TradePrice of TQT.AA
WHEN Date is after 09/10/2005
```

Sample BMIM Commands

```
database_narrow { database = ~/data.taqtradem01/xmim.mim; } query_execute {query=milli.query;
 file=milli.out; }
```

Sample Output File (Milli.Out)

```
Executing Query: /export/dbs/local/limnysetaq1/tmp/.xmim_server_0tFHUt
      Date             Time   Day              1
09/12/2005   07:01:04.000am   Mon        34.8500
09/12/2005   07:06:07.000am   Mon        35.0500
09/12/2005   07:06:47.000am   Mon        35.0500
.
.
09/26/2005   05:37:48.000pm   Mon        33.8092
09/26/2005   05:54:20.000pm   Mon        33.8200
09/26/2005   06:27:55.000pm   Mon        34.1300
                             Avg        34.3248
                          AvgPos        34.3248
                          AvgNeg            NaN
                          PctPos       100.0000
                          PctNeg         0.0000
                         Maximum        35.3400
                         Minimum        33.2400
                          StdDev         0.5167
                           ZStat        66.4346
                        Variance         0.2669
```

XMIM

Sample Query File

```
%exec.units: 1 millisecond
%exec.use.stream.semantics: YES
SHOW 1: TradePrice of TQT.AA
WHEN Date is 09/10/2005
```

Post All Data for 1 Column of Millisecond Data

(5 minutes for 1 symbol)

```
%exec.use.stream.semantics:yes
%exec.units: 1 millisecond
LET
  TheVar = TQT.IBM
SHOW
  1: tradeprice of TheVar
```

Check for Specific Standard Deviation Moves

The following query checks 20 minutes for 1 symbol.

```
%exec.use.stream.semantics:yes
%exec.units:1 millisecond
LET
  TheVar=TQT.IBM
SHOW
  1: 1 value move of tradeprice of TheVar
  2: tradeprice of TheVar
  3: 2.5*(50 value std_dev of tradeprice of TheVar)
  4: 50 value move of tradeprice of TheVar
WHEN
  absolute_value of 1 move of tradeprice of TheVar is more than
  2.5* (absolute_value of 50 value std_dev of tradeprice of TheVar))
```

Filter Out Data with Specific Standard Deviation Moves (Identified as "Spikes")

The following query checks 20 minutes for 1 symbol.

```
%exec.use.stream.semantics:yes
%exec.units:1 millisecond
LET
  TheVar=TQT.IBM
SHOW
  1: tradeprice of TheVar
WHEN
absolute_value of 1 value move of tradeprice of TheVar is at most
   (2.5* (absolute_value of 50 value std_dev of tradeprice of TheVar))
```

XMIM_GET

The `xmim_get` program is located in the xmim/bin directory on the MIM server. The program may also be downloaded from the "C/C++ API" Download Web page.

This program uses the C API to extract data for the MIM. The following are examples of the command line arguments you would give to `xmim_get`.

Usage:

```
xmim_get [-h] [-n num_units units] [-q host] [-p server_number] -r num_rels relation
  -c n column1 column2 [-d mm/dd/yy] [-e mm/dd/yy] [-t hh:mm:ss] [-u hh:mm:ss]
```

Where: (Optional entries are designated with brackets [ ].)

[-h]	Help/Usage
[-q host]	MIM Host Name
[-p server_number]	MIM Port
[-n num_units units]	The type of units to extract. num_units = any number units = -3 = milliseconds 1 = seconds 2 = minutes 3 = hours 4 = days
-c n column1 column2	The number of columns and the column names to extract.
[-d mm/dd/yy]	The date to start the extraction.
[-e mm/dd/yy]	The date to end the extraction.
[-t hh:mm:ss]	The time to start the extraction.
[-u hh:mm:ss]	The time to end the extraction.
-r num_rels relation	The number of relations and the relation names to extract.

Example: This example will pull out millisecond data for the symbol TQT.DELL from 08/10/2004 to 8/12/2004.

```
xmim_get –n 1 -3 –r 1 TQT.DELL –c 1 TradePrice –d 08/10/2004 –e 8/12/2004
```

Spike Checks

LIM provides 100% of the data records as published by NYSE. There are particular data anomolies in this data which you may or may not desire to filter. Please see the following spike examples provided by LIM:

Spike Checks (TradePrice)

LIM utilized standard deviation checks on 1 millisecond moves for all DOW 30 stocks. IBM produced a total of 6.1M TradePrices since September 2003 in the database. Six of these data points had a 1 millisecond move of greater than 2.5 times the 50 millisecond standard deviation.

Example:

```
DateTimeTradePrice
09/21/200509:53:41.757am38.0000
09/21/200509:53:44.918am78.1200
```

Spike Check (Bid/Ask)

LIM utilized standard deviation checks on 1 millisecond moves for all DOW 30 stocks. Both BidPrice and AskPrice kicked out several hundred thousand "off" values per series.

Example for AA:

```
DateTimeBidPrice
08/07/200604:33:28.760pmMon28.8600
08/07/200605:30:06.231pmMon0.0100
08/07/200605:30:06.231pmMon0.0100
08/07/200605:31:43.368pmMon27.2600
```

Spike Check Validated Against Source File

30 randomly selected spike checks tested were validated against the source (TradePrice).

Example of Spike IBM

```
DateTimeTradePrice
09/21/200509:53:38.889amWed78.1300
09/21/200509:53:41.757amWed38.0000
09/21/200509:53:44.918amWed78.1200
```

NYSE TAQ Source File:

095341757BIBM000003800**00000380000**N121994056421409216C

Example of Spike AA

```
DateTimeBidPrice
08/07/200604:33:28.760pmMon28.8600
08/07/200605:30:06.231pmMon0.0100
08/07/200605:30:06.231pmMon0.0100
08/07/200605:31:43.368pmMon27.2600
```

NYSE TAQ Source File:

30 randomly selected spike checks tested were validated against the source (BidPrice and AskPrice).

173006231DAA**00000000100**00000010000029960000000001RBRUTDD000000001183075403AC
173006231DAA**00000000100**00000020000029960000000001RNAQSDD000000001183075500AC

CHAPTER 3
TAQ Database (1993 TAQ CDs)

The New York Stock Exchange Trade and Quote (TAQ) database contains intraday transactions data (trades and quotes) for all securities listed on the New York Stock Exchange (NYSE) and American Stock Exchange (AMEX), as well as NASDAQ National Market System (NMS) and Small Cap issues.

Data from inception of the Daily TAQ product on September 2003 has been appended to the LIM TAQ Database and continues to represent data in that form.

LIM uses exchange explicit symbology for the TAQ database thus minute bars for the IBM trading on the NYSE are under the MIM symbol "IBM.N".

The TAQ CD

The TAQ CDs contain the following files:

The Master File

The master table contains reference information about the stocks in the trade and quote files. The master table contains the following fields.

SYMBOL:	Stock symbol
NAME:	Company name
CUSIP:	Number which uniquely identifies a security
ETx:	The exchanges which the equities is traded on
ITS:	Inter-market trading system eligibility indicator
ICODE:	NYSE industry code
SHARESOUT:	Issued and outstanding shares in the thousands
UOT:	Number of shares in a round lot
DENOM:	Trading denomination (i.e. tick size) of the stock
TYPE:	Common stock indicator
DATEF:	Effective date for that record

The CQ Index File

The index file associates each symbol/trading date pare with its beginning and ending location in the corresponding binary file. The index file contains the following fields.

SYMBOL:	Stock symbol
QDATE:	Quote date
BEGREC:	Start position
ENDREC:	End position

The CQ Binary File

The CQ binary file contains one record for each quote reported. The CQ binary file contains the following fields.

QTIM:	Quote time
BID:	Bid price
OFR:	Offer price
QSEQ:	Market Data Systems sequence number
BIDSIZ:	Bid size in number or round lots (100 share units)
OFRSIZ:	Offer size in number or round lots (100 share units)
MODE:	Quote condition.
EX:	Exchange on which the quote occurred.
MMID:	Identifies the NASDAQ market maker for each NASD quote.

The CT Index File

The index file associates each symbol/date pare with its beginning and ending location in the corresponding binary file. The index file contains the following fields.

SYMBOL:	Stock symbol
TDATE:	Quote date
BEGREC:	Start position
ENDREC:	End position

The CT Binary File

The CQ binary file contains one record for each trade reported. The CT binary file contains the following fields.

TTIM:	Trade time
PRICE:	Actual trade price per share
SIZ:	Number of shares traded
TSEQ:	Market Data Systems sequence number
G127:	Combined “G”, Rule 127 and stopped stock trade indicator
CORR:	Correction Indicator
EX:	Exchange on which the quote occurred.

Other Files and Folders

There are other files that come on the TAQ CD. They are located in two different directories TAQOUT and TAQWIN32. Each folder contains a README file. The *TAQ User Guide* is located in the TAQOUT folder.

How the TAQ Data is Processed

For both the Trade and Quote data the following rules are followed for processing the data.

Conditions for TRADE data

- The equity must be traded on NYSE, AMEX, NASD or OTC. A stock may trade on multiple exchanges, therefore may have multiple symbols.

  If the EX = N, A, T or O respectively.

  Example:

```
IBM.NINTL BUSINESS MACHINES CORP459200101NYSE
BI.ABELL INDUSTRIES, INC078107109AMEX
AAPL.TAPPLE COMPUTER INC037833100NASDAQ
GIS.OGENERAL MILLS INC37033410OTC
```

Note that IBM trades on multiple exchanges. The following shows an example of the symbol names for each exchange:

```
IBM.NINTL BUSINESS MACHINES CORP459200101NYSE
IBM.TINTL BUSINESS MACHINES CORP459200101NASDAQ
IBM.OINTL BUSINESS MACHINES CORP45920010OTC
```

- The equity must have a non-blank CUSIP.
- The equity must have a "TYPE" = common or preferred
- The trade must be a "Good Trade" with a CORR value < 3

Conditions for QUOTE data

- The equity must be traded on NYSE, AMEX, NASD or OTC.

  If the EX = N, A, T or O respectively.

  Example:

```
IBM.NINTL BUSINESS MACHINES CORP459200101NYSE
BI.ABELL INDUSTRIES, INC078107109AMEX
AAPL.TAPPLE COMPUTER INC037833100NASDAQ
GIS.OGENERAL MILLS INC37033410OTC
```

Note that IBM trades on multiple exchanges. The following shows an example of the symbol names for each exchange:

```
IBM.NINTL BUSINESS MACHINES CORP459200101NYSE
IBM.TINTL BUSINESS MACHINES CORP459200101NASDAQ
IBM.OINTL BUSINESS MACHINES CORP45920010OTC
```

- The equity must have a non-blank CUSIP.
- The equity must have a "TYPE" = common or preferred

If the equities have met the previous conditions they are inserted into a XMIM database with the following fields.

TRADE:

TAQ Data Name:	XMIM Data Name:
SYMBOL	Relation
DATE	Date
PRICE	LastTrade
SIZ	TradeSize
G127	G127
COND	SCondition

QUOTE:

TAQ Data Name:	XMIM Data Name:
SYMBOL	Relation
DATE	Date
BID	Bid
BIDSIZ	BidSize
OFR	Ask
OFRSIZ	AskSize
MODEQ	Condition
MMID	MktMaker

TRADE MINUTE BARS:

Minute bars are made from the tick by tick data. The Trade bars have the following fields.

Data Name:	XMIM Data Name:
SYMBOL	Relation
DATE	Date
OPENPRICE	Open
HIGHPRICE	High
LOWPRICE	Low
CLOSEPRICE	Close
TOTALVOLUME	Volume
TRADEVALUE	TradeValue $\sum(price * volume)$

VWAP = TradeValue/Volume

QUOTE MINUTE BARS:

Minute bars are made from the quote tick by tick data. The Quote bars have the following fields.

Data Name:	XMIM Data Name:
SYMBOL	Relation
DATE	Date
BIDOPENPRICE	BidOpen
BIDHIGHPRICE	BidHigh
BIDLOWPRICE	BidLow
BIDCLOSEPRICE	BidClose
BIDTOTALVOLUME	BidVolume
OFROPENPRICE	AskOpen
OFRHIGHPRICE	AskHigh
OFRLOWPRICE	AskLow
OFRCLOSEPRICE	AskClose
OFRTOTALVOLUME	AskVolume
OFRCLOSESIZE	AskCloseSize

How the TAQ Data is Mapped

This section shows the relation between the raw TAQ data and the final data in the MIM.

```
<Field 1> - <Field 2>
```

Field 1 is how the MIM addresses the data.

Field 2 is the field name from TAQ.

TRADE DATA:

SCondition = COND: Sale Condition. These conditions apply to trades on all exchanges except as indicated.

0 = Regular Way (blank or *)
1 = Cash-Only Basis (A)
2 = Bunched (B)
3 = Cash Sale (C)
4 = Next-day Settlement Only (D)
5 = Bunched Sold (G)
6 = Rule 127 trade (J)
7 = Rule 155 trade (K)
8,9 = Crossing Session (8,9)
10 = Sold Last (L)
11 = Next day (N)
12 = Opened Last (O)
13 = Seller (R)
14 = Split Trade (S)
15 = Pre- and Post-Market Close Trades (T)
16 = Average Price Trades (W)
17 = Opened after trading halt if reporter checked the open box (X)
18 = Sold State (Z)

QUOTE DATA:

MktMaker = MMID

0 = All Other
1 = Aggregate quote, valid only for NASDAQ issues
2 = II, Bid and offer are non-CAES or exchange aggregates*
3 = AA, Bid and offer are CAES aggregates*
4 = AI, Bid is CAES aggregate; offer is non-CAES or exchange aggregate*
5 = IA, Bid is no non-CAES or exchange aggregate; offer is CAES aggregate*
6 = NASD, End of day quote for that issue
7 = SBSH, No Description
8 = CAES, NASD Market Services, Inc
9 = TRIM, Trimark Securities, Inc

QCondition = MODE : Quote Condition. These conditions apply to quotes on all exchanges except as indicated.

0 = Zero
1 = Depth on offer side
2 = Depth on bid side
3 = Closing quote
4 = News dissemination
5 = Fast trading
6 = Depth on bid and offer
7 = Order imbalance
8 = Closed Market maker
9 = Non-firm quote
10 = Opening quote
11 = News pending
12 = Regular (NASD open)
13 = Trading halt due to related security
14 = Trading halt in view of common
15 = Order influx
16 = No open/no resume
17,18 = Opening (Re-Opening)
19 = Related Security News dissemination
20 = Related Security News pending
27 = Additional Information
28 = Additional Information due to related
29 = Resume

How to Access the TAQ Minute Bar Data (1993 TAQ CDs)

The TAQ data can be accessed using BMIM, XMIM and the C API utility `xmim_get`. The data may also be accessed using any of LIM's APIs. For more information on the APIs see the *MIM Data and Development Guide*.

BMIM

BMIM can access all parts of the TAQ database. The following are a couple of examples.

Example 1: This example will pull out 4 columns of minute bar quote data between two dates.

```
database_narrow {
    database = ~/data.bar/xmim.mim;
}
facts_write {
    file = ibmn.txt;
    relation = TICKER.IBM;
    fromdate = 1/1/2000;
    todate = 7/1/2000;
    column = BidOpen, BidHigh, BidLow, BidClose;
    units = 1 minutes;
}
```

Example 2: This example will pull out 4 columns of minute bar trade data between two dates.

```
database_narrow {
    database = ~/data.bar/xmim.mim;
}
facts_write {
    file = ibmn.txt;
    relation = TICKER.IBM;
    fromdate = 1/1/2000;
    todate = 7/1/2000;
    column = BidOpen, BidHigh, BidLow, BidClose;
    units = 1 minutes;
}
```

Example 3: This example will pull out 4 columns of second quote data between two dates.

```
database_narrow {
    database = ~/data.tick/xmim.mim;
}
facts_write {
    file = ibmn.txt;
    relation = TICKER.IBM;
    fromdate = 1/1/2000;
    todate = 7/1/2000;
    column = Bid, BidSize, Ask, AskSize;
    units = 1 seconds;
}
```

Example 4: This example will pull out 2 columns of second trade data between two dates.

```
database_narrow {
    database = ~/data.tick/xmim.mim;
}
facts_write {
    file = ibmn.txt;
    relation = TICKER.IBM;
    fromdate = 1/1/2000;
    todate = 7/1/2000;
    column = LastTrade, TradeSize;
    units = 1 seconds;
}
```

For other `bmim_client` examples and help see the *MIM Data and Development Guide* .

XMIM

Using the XMIM software you can write normal queries against all the minute bar data.

The following are query examples you could load in `xmim_client`.

Example 1: This example will pull out 4 columns of minute bar quote data between two dates.

```
%exec.units 1 minute
Show
    1: BidOpen of TICKER.IBM
    2: BidHigh of TICKER.IBM
    3: BidLow of TICKER.IBM
    4: BidClose of TICKER.IBM
When
    Date is after 01/01/2000
And
    Date is before 07/01/2000
```

Example 2: This example will pull out 4 columns of minute bar trade data between two dates.

```
%exec.units 1 minute
Show
    1: Open of TICKER.IBM
    2: High of TICKER.IBM
    3: Low of TICKER.IBM
    4: Close of TICKER.IBM
When
    Date is after 01/01/2000
And
    Date is before 07/01/2000
```

XMIM_GET

The `xmim_get` program may be downloaded from the LIM "Download>C/C++ API" Web page. This program uses the C API to extract data from the MIM.

Usage:

```
xmim_get [-h] [-n num_units units] [-q host] [-p server_number] -r num_rels relation
  -c n column1 column2 [-d mm/dd/yy] [-e mm/dd/yy] [-t hh:mm:ss] [-u hh:mm:ss]
```

Where: (Optional entries are designated with brackets [ ].)

[-h]	Help/Usage
[-q host]	MIM Host Name
[-p server_number]	MIM Port
[-n num_units units]	The type of units to extract. num_units = any number units = -3 = milliseconds 1 = seconds 2 = minutes 3 = hours 4 = days
-c n column1 column2	The number of columns and the column names to extract.
[-d mm/dd/yy]	The date to start the extraction.
[-e mm/dd/yy]	The date to end the extraction.
[-t hh:mm:ss]	The time to start the extraction.
[-u hh:mm:ss]	The time to end the extraction.
-r num_rels relation	The number of relations and the relation names to extract.

Example 1: This example will pull out 4 columns of minute bar quote data between two dates.

```
xmim_get –n 1 2 –q host –p port –r 1 TICKER.IBM –c 4 BidOpen BidHigh
BidLow BidClose –d 01/01/2000 –e 07/01/2000
```

Example 2: This example will pull out 4 columns of minute bar trade data between two dates.

```
xmim_get –n 1 2 –q host –p port –r 1 TICKER.IBM –c 4 Open High Low
Close –d 01/01/2000 –e 07/01/2000
```

Example 3: This example will pull out 4 columns of second quote data between two dates.

```
xmim_get –n 1 1 –q host –p port –r 1 TICKER.IBM –c 4 Bid BidSize
Ask AskSize –d 01/01/2000 –e 07/01/2000
```

Example 4: This example will pull out 2 columns of second trade data between two dates.

```
xmim_get –n 1 1 –q host –q port –r 1 TICKER.IBM –c 2 LastTrade
TradeSize –d 01/01/2000 –e 07/01/2000
```

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