МОСКОВСКАЯ МЕЖБАНКОВСКАЯ ВАЛЮТНАЯ БИРЖА

РУКОВОДСТВО ПОЛЬЗОВАТЕЛЯ

ПУБЛИЧНЫЙ FIX ИНТЕРФЕЙС

программного обеспечения MICEX-FIX MARKET DATA

Версия 1.0

Оглавление

Введение

Financial Information eXchange (FIX™) протокол – это совокупность правил для электронного обмена финансовой информацией.

FIX протокол создан и поддерживается FIX Protocol Ltd – независимым комитетом участников отрасли по всему миру. Последняя версия FIX протокола, а также информация о FIX Protocol Ltd и FIX протоколу доступна по адресу http://www.fixprotocol.org.

FIX standard version 4.4 или version 4.2 можно загрузить пройдя по следующей ссылке: http://www.fixprotocol.org/specifications/ , Version 4.4 (with Errata 20030618) или Version 4.2 (with Errata 20010501).

Данный документ «Публичный FIX интерфейс и руководство пользователя» описывает публичный FIX интерфейс, основанный на стандартных версиях протокола FIX 4.2 и 4.4 в MICEX-FIX MARKET DATA. Он дает клиентам представление о том, как установить подключение к MICEX-FIX MARKET DATA и подписаться на market data. Этот документ предоставляет детальное описание FIX сообщений, которые поддерживаются ММВБ.

По умолчанию, MICEX-FIX MARKET DATA предоставляет возможность соединения по стандартному протоколу FIX 4.2 и 4.4; любые отклонения от стандарта детально описаны в данном документе. В документ включены только те сообщения и поля, которые поддерживаются MICEX-FIX MARKET DATA.

Руководство пользователя

Предназначение системы

Программный продукт MICEX-FIX MARKET DATA представляет собой серверное решение, с помощью которого клиентские приложения могут получать рыночные данные ММВБ в соответствии со стандартом протокола FIX.

В данном документе описываются форматы FIX сообщений и правила обмена сообщениями между сервером MICEX-FIX MARKET DATA и клиентским приложением – получателем рыночной информации.

Поддержка версий

MICEX-FIX MARKET DATA в настоящее время поддерживает версии протокола FIX 4.2 и 4.4.

Синтаксис FIX сообщения

Сообщения состоят из последовательности полей "Tag=Value", отделенных друг от друга разделителем - символом ASCII 1 (SOH). Все сообщения начинаются со стандартного заголовка и заканчиваются стандартным трейлером.

Подробно синтаксис сообщений рассматривается в главе "Публичный FIX интерфейс".

Функциональность MICEX-FIX MARKET DATA

1. Подключение к MICEX-FIX MARKET DATA

Каждому зарегистрированному пользователю (FIX-Client) выделяются следующий набор параметров подключения:

- SenderCompID (идентификатор клиента, строковое значение)
- TargetCompID (идентификатор сервера, TargetCompID = "MicexFixBridge")
- IP адрес и порт для подключения к серверу MICEX-FIX MARKET DATA
- Username
- Password
- Допустимый диапазон IP адресов компьютера клиента
- Информация о способе сетевого подключения (Internet, VPN, другое)

Пара SenderCompID и TargetCompID является уникальным идентификатором сессии.

Высылается также информация о том, к каким рыночным данных клиент имеет права доступа.

Система работает в режиме получателя (FIX session acceptor), а клиенты – в режиме инициатора (FIX session initiator).

При подключении к MICEX-FIX MARKET DATA существует несколько стадий аутентификации.

1. Первый этап аутентификации осуществляется системой MICEX-FIX MARKET DATA при проверке IP адреса пользователя и SenderCompID (49). Клиенты должны сообщать об изменениях IP адреса заранее.

2. Второй этап аутентификации осуществляется в процессе авторизации (FIX Logon). Пользователь указывает свои уникальные имя и пароль в FIX Logon сообщении, для чего используются тэги Username(553) и Password(554) независимо от используемой версии FIX - 4.2 или 4.4.

2. Управление сессиями и нумерация сообщений

MICEX-FIX MARKET DATA сервер и клиентское приложение обмениваются сообщениями FIX сессии.

Все сообщения в сессии пронумерованы. Каждое следующее сообщение должно иметь номер на единицу больше предыдущего. Номера входящих и исходящих сообщений (incoming and outgoing sequence numbers) контролируются как со стороны сервера, так и со стороны клиента. Клиент может инициировать сброс нумерации, послав logon сообщение с установленным в значение “Y” тегом ResetSeqNumFlag (141). MICEX-FIX MARKET DATA начинает нумерацию сообщений с 1 при восстановлении соединения после разрыва или при установлении нового соединения.

Входящие и исходящие номера должны контролироваться пользователем независимо. Это должно выполняться, чтобы опознавать пропуски при доставке сообщений. После аутентификации клиент и хост синхронизируют нумерацию перед отправкой следующего сообщения.

Если номер полученного сообщения больше ожидаемого, клиент должен отправить Resend Request сообщение с определением отсутствующего диапазона сообщений в тэгах BeginSeqNo(7) и EndSeqNo(16). MICEX-FIX MARKET DATA поддерживает значение 0 (бесконечность) в 16-м тэге, что обозначает наибольший ожидаемый номер.

Если номер полученного сообщения меньше ожидаемого то нумерация сдвигается и продолжается с этого номера, как если бы он был верным.

MICEX-FIX MARKET DATA сбрасывает порядковые номера при старте в начале дня в 7:55am.

3. Получение пропущенных или утраченных FIX сообщений

Пропуски в цепочке сообщений могут быть обнаружены во время авторизации или во время FIX сессии при нарушении последовательности номеров сообщений. Такие пропуски требуют восстановления сообщений (message recovery), и пользователь может отправить Resend Request с запросом отсутствующих сообщений. В случае если все пропущенные сообщения являются сообщениями бизнес уровня, они будут немедленно пересланы. В случае пропущенного административного сообщения сервер ответит сообщением Sequence Reset, где тэгу NewSeqNo(36) будет присвоено значение номера сообщения, которое будет повторно доставлено следующим. Вслед за этим отсутствующие бизнес сообщения будут отправлены повторно. Процесс будет продолжаться пока все бизнес сообщения, определенные в промежутке как отсутствующие, не будут доставлены. Административные сообщения (Logon, Logout, Resend Request, Heartbeat, Test Request, Sequence Reset, Reject) повторно не пересылаются.

4. Виды подписок на рыночные данные

FIX клиент может отправить запрос на получение подписки на все рыночные данные или на получение частичной информации: Order Book, Trade List, Market Statistics, Index Information. Market statistics включает Best Bid, Best Offer, Last Trade, Weighted Average, Settlement, Open Interest, Open Price, Close Price, High Price, Low Price, High Bid Price, Low Offer Price, Volume Today, Admitted Quote, Bid

Total, Offer Total, Market, Closing, Official Close, Negotiated Deals Today, Last Bid Price, Last Offer Price, Market Price 2, Opening Price, Last Negotiated Deal, Official Open Price, Official Current Price, Duration.

5. Подписка

Рыночные данные отправляются клиенту как ответ на запрос Market Data Request. FIX клиент подключается к источнику MICEX-FIX MARKET DATA и авторизуется, после чего отправляет одно или больше сообщений с обозначением инструментов, по которым он хочет получать информацию. MICEX-FIX MARKET DATA начинает отправку клиенту FIX сообщения, содержащие рыночные данные для указанных инструментов. Для отмены отправки сообщений клиент должен послать сообщение с обозначением инструментов, для которых отменяется получение рыночных данных.

После разрыва соединения информация о подписках теряется. При повторном подключении для получения данных клиент должен послать запросы еще раз.

FIX Client посылает MFIX Market Data следующие сообщения:

- От клиента:
  - Market Data Request (MsgType = V) - подписаться к (и отписаться от) market data
  - Security Definition request
  - Security Status request
- От сервера:
  - Market Data Request Reject (MsgType = Y) - отправляется в ответ на Market Data Request, который не может быть удовлетворен по какой-либо причине
  - Market Data - Snapshot (MsgType = W) - Market data snapshot message
  - Market Data - Incremental Refresh (MsgType = X) - Market data subscription message содержит начальный кадр и последующие incremental updates
  - Security Definition
  - Security Status

6. Не поддерживаемые сообщения и поля

Если FIX клиент отправляет сообщение, которое не поддерживается, он получит в ответ отклоняющее сообщение Business Message Reject (MsgType = 'j').

Когда FIX клиент отправляет сообщение, которое поддерживается:

- При отправке неподдерживаемого поля в составе поддерживаемого сообщения это поле будет проигнорировано FIX сервером. Подписка на поддерживаемые поля будет установлена.
- При отправке поддерживаемого поля с неверным значением в составе поддерживаемого сообщения, FIX клиент получит отклоняющее сообщение для этого поля, которое указывает, что значение поля, отправленное клиентом, неверно. При этом подписка на получение данных по всем полям, перечисленным в запросе, не будет установлена.
- Если сообщение содержит некорректную контрольную сумму или длину, такое сообщение будет проигнорировано сервером.
- FIX Logon сообщение, отправленное с недопустимого IP адреса для указанного в Logon сообщении SenderCompID (49) будет проигнорировано.

- Logon сообщение с неправильными именем или паролем будет отклонено, в этом случае сервер отправит ответ в виде Logout сообщения с описанием ошибки.

Публичный FIX интерфейс

Здесь описаны сообщения (messages), блоки (blocks) и поля (fields) протоколов FIX 4.2 и FIX 4.4. Сообщение (блок) описывается в таблице, где strings соответствуют fields (blocks). Для каждого field tag, field name, req'd, type присутствуют правильные значения и комментарии, где:

- Tag - номер, используемый в FIX сообщении
- Field name - короткое описание, которое не используется в сообщении
- Req'd - указывает, необходимо ли использование поля в сообщении
- Type - тип поля
- Valid values - дополнительные ограничения типа поля
- Comments - подробное описание поля

В таблицах описания форматов сообщений далее в этом документе сохранены комментарии к полям на английском языке из оригинального описания протокола.

Форматы сообщений FIX4.4

FIX component blocks

Все сообщения начинаются со стандартного заголовка (header) и заканчиваются трейлером (trailer), который содержит контрольную сумму (checksum).

Standard Message Header

Каждое сообщение FIX содержит стандартный заголовок (header). Заголовок содержит версию протокола, длину сообщения, порядковый номер сообщения, тип сообщения и другую техническую информацию. Комментарий для тега MsgType (35) содержит список всех поддерживаемых типов сообщений. Неподдерживаемые типы сообщения и значения полей отклоняются Business Message Reject (j) сообщением с пояснительным текстом.

Tag	Field name	Req'd	Type	Valid values	Comments
8	BeginString	Y	String(7)	'FIX.4.4'	Identifies beginning of new message and protocol version. Always unencrypted, must be first field in message.
9	BodyLength	Y	Length		Message length, in bytes, forward to the CheckSum field. Always unencrypted, must be second field in message.

35	MsgType	Y	String(10)		Defines message type. Always unencrypted, must be third field in message.
49	SenderCompID	Y	String		Assigned value used to identify firm sending message. Always unencrypted.
56	TargetCompID	Y	String		Assigned value used to identify receiving firm. Always unencrypted.
90	SecureDataLen	N	Length		Byte length of SecureData (91) field. Always unencrypted. Required when encryption is used.
91	SecureData	N	data		Actual encrypted data stream. Required when encryption is used.
34	MsgSeqNum	Y	SeqNum		Integer message sequence number. Can be embedded within encrypted data section.
43	PossDupFlag	N	Boolean	'Y' (Possible duplicate) 'N' (Original transmission)	Indicates possible retransmission of message with this sequence number. Can be embedded within encrypted data section. Required for retransmitted messages.
52	SendingTime	Y	UTCTimestamp		Time of message transmission (expressed in UTC). Can be embedded within encrypted data section.
122	OrigSendingTime	N	UTCTimestamp		Original time of message transmission when transmitting messages as the result of resend request (expressed in UTC). Can be embedded within encrypted data section. Required for message resent as a result of a resend request.
347	MessageEncoding	N	String(11)	'UTF-8' (Unicode)	Type of message encoding (non-ASCII characters). Required if any "Encoding" fields are used.

Back to the Table of Contents

Standard Message Trailer

Стандартный трейлер (trailer) завершает каждое сообщение, административное или бизнес-уровня. Обратитесь к Volume 2 описания FIX 4.4 (FIX 4.4 Specification) для подробной информации о расчете контрольной суммы.

Tag	Field name	Req'd	Type	Valid values	Comments
10	CheckSum	Y	String(3)		Three byte, simple checksum. Always unencrypted, always last field in message.

Back to the Table of Contents

FIX session-level messages

Logon (MsgType (35) = 'A')

Для установки сессии с MICEX-FIX MARKET DATA отправляется сообщение Logon (MsgType (35) = 'A'), где указываются имя пользователя и пароль.

MICEX-FIX MARKET DATA сбрасывает последовательность номеров FIX сессии в 1 каждый день в 07:40 MSK. До наступления этого времени клиент должен разорвать соединение с системой, в противном случае система сама разорвет соединение. Новую сессию клиент может устанавливать через 20 минут.

Клиент может разрывать и восстанавливать соединение сколько угодно раз в течение рабочего дня.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'A'
98	EncryptMethod	Y	int	'0' (None) '5' (PGP/DES-MD5)	Method of encryption. Always unencrypted.
108	HeartBtInt	Y	int		Heartbeat interval (seconds).
141	ResetSeqNumFlag	N	Boolean	'Y' (Yes) 'N' (No)	Indicates if the both sides of the FIX session should reset sequence numbers.
553	Username	Y*	String		Username.
554	Password	Y*	String		Password.
<Standard Message Trailer>		Y			

Logout (MsgType (35) = '5')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '5'
58	Text	N	String		Logout reason.
<Standard Message Trailer>		Y			

Heartbeat (MsgType = '0')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '0'

112	TestReqID	N	String		Identifier included in Test Request (1) message to be returned in resulting Heartbeat (0).
<Standard Message Trailer>		Y			

Test Request (MsgType = '1')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '1'
112	TestReqID	Y	String		Identifier included in Test Request (1) message to be returned in resulting Heartbeat (0).
<Standard Message Trailer>		Y			

Resend Request (MsgType = '2')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '2'
7	BeginSeqNo	Y	SeqNum		Message sequence number of first message in range to be resent.
16	EndSeqNo	Y	SeqNum		Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo (7) = EndSeqNo (16). If request is for all messages subsequent to a particular message, EndSeqNo (16) = '0' (representing infinity).
<Standard Message Trailer>		Y			

Sequence Reset (MsgType = '4')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '4'
123	GapFillFlag	N	Boolean	'Y' (Gap Fill message, MsgSeqNum field valid) 'N' (Sequence Reset,	Indicates that the Sequence Reset (4) message is replacing administrative or application messages which will not be

				ignore MsgSeqNum)	resent.
36	NewSeqNo	Y	SeqNum		New sequence number.
<Standard Message Trailer>		Y			

Reject (MsgType = '3')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '3'
45	RefSeqNum	Y	SeqNum		MsgSeqNum (34) of rejected message.
371	RefTagID	N	int		The tag number of the FIX field being referenced.
372	RefMsgType	N	String(10)		The MsgType (35) of the FIX message being referenced.
373	SessionRejectReason	N	int	'0' (Invalid tag number) '1' (Required tag missing) '2' (Tag not defined for this message type) '3' (Undefined tag) '4' (Tag specified without a value) '5' (Value is incorrect (out of range) for this tag) '6' (Incorrect data format for value) '7' (Decryption problem) '8' (Signature problem) '9' (CompID problem) '10' (SendingTime accuracy problem) '11' (Invalid MsgType) '12' (XML validation error) '13' (Tag appears more than once) '14' (Tag specified out	Code to identify reason for reject.

				of required order) '15' (Repeating group fields out of order) '16' (Incorrect NumInGroup count for repeating group) '17' (Non "data" value includes field delimiter) '99' (Other)	
58	Text	N	String		Message to explain reason for rejection.
<Standard Message Trailer>		Y			

Back to the Table of Contents

FIX application-level messages

Security Definition Request (MsgType = 'c')

Сообщение Security Definition Request (MsgType = 'c') используется для запроса информации об инструменте. Запрашиваемый инструмент может быть определен как множественный (multileg) инструмент, состоящий из одного или больше инструментов. Подписка на получение статуса инструмента (security status) может быть опционально определена включением поля SubscriptionRequestType (263) в сообщение.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'c'
320	SecurityReqID	Y	String		Unique identifier of Security Definition Request message.
321	SecurityRequestType	Y	int	'3' (Request list of securities)	Type of Security Definition Request message.
336	TradingSessionID	Y*	String		Optional identifier of trading session to specify a particular trading session for which you want to obtain a list of securities. The format is “<Market>|<Board>” or “<Market>”. The list of supported Super Markets: • FOND • CURR • GKOM • FOPT List of boards are distributed for each market off-line. Also it is not required to mention board, it will be sent in security definition.
<Standard Message Trailer>		Y			

Security Status Request (MsgType = 'e')

Security Status Request (MsgType ='e') используется для получения состояния инструмента (Security) как snapshot или snapshot с обновлениями. Для инструмента разрешается только одна подписка.

Если SubscriptionRequestType (263) = 0 (запрос snapshot), клиенту будет отправлено сообщение Security Status (MsgType = 'f') с информацией по snapshot. Если запрос не может быть выполнен, будет отправлено сообщение Reject.

Если SubscriptionRequestType (263) = 1 (запрос snapshot с обновлениями), будет отправлен начальный Security Status (MsgType = 'f'). с информацией по snapshot, а вслед за ним сообщения с обновлениями статуса инструмента по мере их появления. Если подписка не может быть выполнена будет отправлено сообщение Reject.

Если SubscriptionRequestType (263) = 2 (отказ от подписки), будет отправлено сообщение типа Security Status (MsgType ='f') без информации об обновлениях. Никакие обновления в дальнейшем получаться не будут, поскольку подписка была отменена. Если отказ от подписки не может быть выполнен, будет отправлено сообщение Reject.

Для любого другого значения SubscriptionRequestType будет отправлено сообщение Reject.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'e'
324	SecurityStatusReqID	Y	String		Unique identifier of Security Status Request message.
<Instrument>					
55	Symbol	Y	String		Ticker symbol. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
48	SecurityID	N	String		Security identifier value (e.g. CUSIP, SEDOL, ISIN, etc).
22	SecurityIDSource	N	String	'4' (ISIN number)	Identifies class or source of the security identifier value. Required if SecurityID (48) is specified.
</Instrument>					
263	SubscriptionRequestType	Y	char	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe)) '2' (Unsubscribe)	Type of subscription request.
336	TradingSessionID	Y*	String		Optional identifier of trading session to specify a particular trading session for which you want to obtain a list of securities.

<Standard Message Trailer>	Y			

Security Definition (MsgType = 'd')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'd'
320	SecurityReqID	Y	String		Identifier of Security Definition Request message which this message is sent in response to.
322	SecurityResponseID	Y	String		Unique identifier of Security Definition message.
323	SecurityResponseType	Y	int	'4' (List of securities returned per request) '6' (Can not match selection criteria) *'100' (Initial download from corresponding MICEX market has not been performed yet)*	Type of Security Definition message.
<Instrument>					
55	Symbol	Y	String		Ticker symbol. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
48	SecurityID	N	String		Security identifier value (e.g. CUSIP, SEDOL, ISIN, etc).
22	SecurityIDSource	N	String	'4' (ISIN number)	Identifies class or source of the security identifier value. Required if SecurityID (48) is specified.

460	Product	N	int	'3' (CORPORATE) '4' (CURRENCY) '5' (EQUITY) '6' (GOVERNMENT) '7' (INDEX) '11' (MUNICIPAL) '13' (FINANCING)	Indicates the type of product the security is associated with.
461	CFICode	N	String		Indicates the type of security using ISO 10962 standard, Classification of Financial Instruments (CFI code) values.
167	SecurityType	N	String	'CORP' (Corporate bond) 'FOR' (Foreign exchange contract) 'CS' (Common stock) 'PS' (Preferred stock) 'EUSOV' (Euro sovereigns) 'REPO' (Repurchase) 'BN' (Bank notes) 'MF' (Mutual Fund) *'MUNI' (Municipal bond)*	Indicates type of security.
200	MaturityMonthYear	N	month-year		Specifies the month and year of maturity.
541	MaturityDate	N	LocalMktDate		Specifies date of maturity (a full date).
224	CouponPaymentDate	N	LocalMktDate		Date interest is to be paid.
228	Factor	N	float		For Fixed Income: amorization factor for deriving Current face from Original face for ABS or MBS securities. In TIPS securities this is the Inflation

					index. Qty * Factor * Price = Gross Trade Amount. For Derivatives: Contract Value Factor by which price must be adjusted to determine the true nominal value of one futures/options contract. (Qty * Price) * Factor = Nominal Value.
202	StrikePrice	N	Price		Strike price for an option.
223	CouponRate	N	Percentage		The rate of interest that, when multiplied by the principal, par value, or face value of a bond, provides the currency amount of the periodic interest payment.
107	SecurityDesc	N	String		Security description.
350	EncodedSecurityDescLen	N	Length		Byte length of encoded (non-ASCII characters) EncodedSecurityDesc (351) field.
351	EncodedSecurityDesc	N	data		Encoded (non-ASCII characters) representation of the SecurityDesc (107) field in the encoded format specified via the MessageEncoding (347) field.
864	NoEvents	N	NumInGroup		Number of repeating events following.
=> 865	EventType	N	int	'7' (Last eligible trade date) '100' (First eligible trade date)	Code to represent the type of event. Required if NoEvents (864) > 0.
=> 866	EventDate	N	LocalMktDate		Date of event.
5217	*StateSecurityID*	*N*	*String*		*State security identification number.*
5382	*EncodedShortSecurityDescLen*	*N*	*Length*		*Byte length of encoded (non-ASCII characters) EncodedShortSecurityDesc (5383) field.*
5383	*EncodedShortSecurityDesc*	*N*	*data*		*Encoded (non-ASCII characters) representation of the short security description in the encoded format*

					specified via the MessageEncoding (347) field.
5556	*BaseSwapPx*	*N*	*Price*		*Base SWAP price.*
5558	*BuyBackPx*	*N*	*Price*		*Buy back price.*
5559	*BuyBackDate*	*N*	*LocalMktDate*		*Buy back date.*
5677	*Repo2Px*	*N*	*Price*		*Price of the second part of REPO.*
</Instrument>					
<InstrumentExtension>					
870	NoInstrAttrib	N	NumInGroup		Number of repeating InstrAttrib group entries.
=> 871	InstrAttribType	N	int	'8' (Coupon period) '27' (Instrument price precision)	Type of instrument attribute. Required if NoInstrAttrib (870) > 0.
=> 872	InstrAttribValue	N	String		Value of instrument attribute (if applicable).
</InstrumentExtension>					
<UnderlyingInstrument>					
711	NoUnderlyings	N	NumInGroup		Number of UnderlyingInstrument repeating group instances.
=> 311	UnderlyingSymbol	N	String		Underlying security's Symbol. Required if NoUnderlyings (711) > 0.
</UnderlyingInstrument>					
15	Currency	N	Currency		Instrument currency.
336	TradingSessionID	N	String		Identifier of trading session. The format is “<Market>|<Board>”.
58	Text	N	String		Comment, instructions, or other identifying information.

561	RoundLot	N	Qty		The trading lot size of a security.
120	*SettlCurrency*	*N*	*Currency*		*Currency code of settlement denomination.*
423	*PriceType*	*N*	*int*	*'1' (Percentage (e.g. percent of par))* *'2' (Per unit (i.e. per share or contract))*	*Code to represent the price type.*
5385	*MarketCode*	*N*	*String*		*Code of market where instrument is traded.*
5386	*MinPriceIncrement*	*N*	*Price*		*Minimum price increase for security.*
5387	*MktShareLimit*	*N*	*Percentage*		*Market share limit.*
5388	*MktShareThreshold*	*N*	*Qty*		*Market share limit threshold.*
5389	*MaxOrdersVolume*	*N*	*Qty*		*Maximum summary volume of active buy and sell orders.*
5470	*PriceMvmLimit*	*N*	*Price*		*Maximum deviation of prices from settlement price.*
5472	*PriceMvmLimitT1*	*N*	*Price*		*Maximum deviation of prices from settlement price at T+1.*
5508	*FaceValue*	*N*	*Amt*		*Face value of security.*
7595	*NoSharesIssued*	*N*	*Qty*		*Number of shares issued.*
9199	*HighLimit*	*N*	*Price*		*Allowable high limit price for the trading day.*
9200	*LowLimit*	*N*	*Price*		*Allowable low limit price for the trading day.*
<Standard Message Trailer>		Y			

Security Status (MsgType = 'f')

Сообщение типа Security Status (MsgType ='f') содержит информацию о состоянии инструмента в торговой системе.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'f'
324	SecurityStatusReqID	N	String		Identifier of Security Status Request message which this message is sent in response to.
<Instrument>					
55	Symbol	Y	String		Ticker symbol. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
</Instrument>					
336	TradingSessionID	N	String		Optional identifier of trading session. The format is “<Market>|<Board>” or “<Market>”.
326	SecurityTradingStatus	N	int	'2' (Trading halt) '17' (Ready to trade (start of session)) '18' (Not available for trading (end of session)) '20' (Unknown or invalid) '100' (Initial download from corresponding MICEX market has not been performed yet)	Identifies the trading status applicable to the transaction.
58	Text	N	String		Comment, instructions, or other identifying information.
5509	*AuctionIndicator*	*N*	*Boolean*	*'Y' (Yes)* *'N' (No)*	*Indicates whether or not the auction is being held for the security.*
<Standard Message Trailer>		Y			

Trading Session Status (MsgType = 'h')

Сообщение типа Trading Session Status (MsgType = ‘h’) предоставляет информацию о состоянии на рынке и отправляется с сервера в следующих случаях:

- Соединение с MICEX установлено успешно в начале дня или после перерыва
- Соединение с MICEX не установлено успешно или было прервано и MICEX-FIX MARKET DATA пытается восстановить его
- В конце дня MICEX-FIX MARKET DATA прерывает соединение с MICEX
- После потери и восстановления соединения MICEX-FIX MARKET DATA определяет, что TradingSessionId сессии был изменен
- После потери соединения MICEX-FIX MARKET DATA не может восстановить соединение

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'h'
336	TradingSessionID	Y	String		Optional identifier of trading session.
325	UnsolicitedIndicator	N	Boolean	'Y' (Yes) 'N' (No)	Indicates whether or not message is being sent as a result of a subscription request or not.
340	TradSesStatus	Y	int	*'100' (Trading system restarted)* *'101' (Connection to MICEX market established)* *'102' (Connection to MICEX market terminated correctly)* *'103' (Connection to MICEX market terminated non-gracefully)* *'104' (Reconnecting to MICEX market)*	State of the trading session.
58	Text	N	String		Free format text string.
<Standard Message Trailer>		Y			

Market Data Request(MsgType = 'V')

Сообщение типа Market Data Request используется для запроса рыночной информации для указанного в сообщении инструмента. Поле SubscriptionRequestType (263) определяет тип запрашиваемой информации:

- Если SubscriptionRequestType (263) = 0 (запрос snapshot), будет возвращено сообщение типа Market Data Snapshot/Full Refresh (MsgType ='W'), содержащее рыночные данные на момент получения запроса (snapshot, снимок текущего состояния). Если запрос не может быть выполнен, будет возвращено сообщение типа Market Data - Request Reject (MsgType ='Y').
- Если SubscriptionRequestType (263) = 1 (запрос snapshot с обновлениями), сервером будет отправлено начальное сообщение типа Market Data Snapshot / Full Refresh (MsgType ='W'), содержащее информацию о snapshot, и далее будут отправляться сообщения типа Market Data Incremental Refresh (MsgType ='X'), содержащие обновления рыночных данных (market data) по мере их возникновения. Если подписка не может быть выполнена, будет возвращено сообщение типа Market Data - Request/Reject (MsgType ='Y').
- Если SubscriptionRequestType (263) = 2 (отказ от подписки), будет отправлено сообщение типа Market Data – Incremental Refresh (MsgType ='X') без информации об обновлениях. Никаких обновлений за этим не последует, поскольку подписка была отменена. Если отказ от подписки не может быть выполнен, будет возвращено сообщение типа Market Data - Request Reject (MsgType ='Y').

Для любого другого значения SubscriptionRequestType будет возвращено сообщение типа Market Data - Request Reject (MsgType ='Y').

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'V'
262	MDReqID	Y	String		Unique identifier of Market Data Request message when new subscription/request is sent, or identifier of previous Market Data Request message in case of unsubscribe.
263	SubscriptionRequestType	Y	char	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe)) '2' (Unsubscribe)	Type of subscription request.
264	MarketDepth	Y	int	'0' (Full Book) '1' (Top of Book)	Depth of market.
265	MDUpdateType	N	int	'1' (Incremental Refresh)	Specifies the type of market data update. Required if SubscriptionRequestType (263) = '1'.

267	NoMDEntryTypes	Y	NumInGroup		Number of MDEntryType fields requested.
=> 269	MDEntryType	Y	char	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening price) '5' (Closing price) '6' (Settlement price) '7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) *'B' (Trade volume)* *'C' (Open interest)* *'N' (Session high bid)* *'O' (Session low offer)* *'h' (Open period price)* *'i' (Last bid price)* *'j' (Last offer price)* *'k' (Close period price)* *'l' (Market price 2)* *'m' (Market price)* *'n' (Last negotiated deal)* *'o' (Official open price)* *'p' (Official current price)* *'q' (Admitted quote)* *'r' (Official close price)* *'v' (Total bid volume)* *'w' (Total offer volume)* *'t' (Negotiated deals value)* *'u' (Duration)*	Type of market data entry.

				'y' (Market statistics) *'z' (Trade list)* *'*' (All market data)*	
146	NoRelatedSym	Y	NumInGroup		Number of instruments requested.
<Instrument>					
=> 55	Symbol	Y	String		Ticker symbol. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol. Use * to request all instruments for a market.к
=> 48	SecurityID	N	String		Security identifier value (e.g. CUSIP, SEDOL, ISIN, etc).
=> 22	SecurityIDSource	N	String	'4' (ISIN number)	Identifies class or source of the security identifier value. Required if SecurityID (48) is specified.
</Instrument>					
386	NoTradingSessions	Y*	NumInGroup		Number of trading sessions for which the request is valid.
=> 336	TradingSessionID	Y*	String		Identifier of trading session received in security definition. Required if NoTradingSessions (386) > 0.
<Standard Message Trailer>		Y			

Market Data Request Reject (MsgType = 'Y')

Сообщение типа Market Data Request Reject (MsgType = 'Y') отправляется в том случае, когда запрос Market Data Request не может быть выполнен.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'Y'

262	MDReqID	Y	String		Identifier of Market Data Request message which is rejected.
281	MDReqRejReason	N	char	'0' (Unknown symbol) '1' (Duplicate MDReqID) '3' (Insufficient permissions) '4' (Unsupported SubscriptionRequestType) '8' (Unsupported MDEntryType) '9' (Unsupported TradingSessionID) *'x' (Instrument is not traded at board)* *'y' (Unknown MDReqID)* *'z' (Initial download from corresponding MICEX market has not been performed yet)*	Reason for the rejection of Market Data Request message.
58	Text	N	String		Message to explain reason for rejection.
<Standard Message Trailer>		Y			

Market Data - Snapshot/Full Refresh (MsgType = 'W')

Сообщение типа The Market Data – Snapshot/Full Refresh (MsgType = 'W') отправляется в качестве ответа на сообщение типа Market Data Request (MsgType = 'V'), в котором SubscriptionRequestType = '0' (запрос snapshot).

Во всех случаях каждое сообщение типа Market Data – Snapshot/Full Refresh (MsgType = 'W') соответствует одному Market Data Request (MsgType = 'V'). Значение тэга MDReqID(262) должно совпадать со значением этого тэга в соответствующем сообщении Market Data Request (MsgType = 'V').

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'W'
262	MDReqID	N	String		Identifier of Market Data Request message which this message is sent in response to.

<Instrument>					
55	Symbol	Y	String		Ticker symbol. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
</Instrument>					
451	NetChgPrevDay	N	PriceOffset		Net change from previous day's closing price vs. last traded price.
268	NoMDEntries	Y	NumInGroup		Number of market data entries following.
=> 269	MDEntryType	Y	char	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening price) '5' (Closing price) '6' (Settlement price) '7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) *'B' (Trade volume)* *'C' (Open interest)* *'J' (Empty book)* *'N' (Session high bid)* *'O' (Session low offer)* *'h' (Open period price)* *'i' (Last bid price)* *'j' (Last offer price)* *'k' (Close period price)* *'l' (Market price*	Type of market data entry.

				2) *'m' (Market price)* *'n' (Last negotiated deal)* *'o' (Official open price)* *'p' (Official current price)* *'q' (Admitted quote)* *'r' (Official close price)* *'v' (Total bid volume)* *'w' (Total offer volume)* *'t' (Negotiated deals value)* *'u' (Duration)* *'z' (Trade list)*	
=> 278	MDEntryID	N	String		Unique market data entry identifier.
=> 270	MDEntryPx	N	Price		Price of the market data entry. Required if MDEntryType (269) != 'A', 'B', 'C', 'J'.
=> 271	MDEntrySize	N	Qty		Quantity or volume represented by the market data entry. Required if MDEntryType (269) = '0', '1', '2', 'B', 'C'.
=> 272	MDEntryDate	N	UTCDateOnly		Date of market data entry.
=> 273	MDEntryTime	N	UTCTimeOnly		Time of market data entry.
=> 336	TradingSessionID	N	String		Identifier of trading session. The format is “<Market>|<Board>” or “<Market>|<Board>|<State>”, where state can be: • OPEN • CLOS

=> 276	QuoteCondition	N	MultipleValueString	'C' (Exchange best)	Space-delimited list of conditions describing a quote.
=> 277	TradeCondition	N	MultipleValueString	'J' (Next day trade) 'R' (Opening price) *'AJ' (Official closing price)*	Space-delimited list of conditions describing a trade.
=> 286	OpenCloseSettlFlag	N	MultipleValueString	'4' (Entry from previous business day)	Flag that identifies a market data entry.
=> 5384	*AccruedInterestAmt*	*N*	*Amt*		*Amount of accrued interest.*
=> 5510	*ChgFromWAPrice*	*N*	*PriceOffset*		*Indicates change from previous day's weighted average price vs. last traded price.*
=> 5511	*ChgOpenInterest*	*N*	*Qty*		*Indicates change from previous day's open interest.*
=> 6139	*TotalNumOfTrades*	*N*	*int*		*Total number of trades.*
=> 6143	*TradeValue*	*N*	*Amt*		*Trade value.*
=> 6608	*Yield*	*N*	*Percentage*		*Yield calculated at MDEntryPx (270).*
=> 9168	*OfferNbOr*	*N*	*int*		*Total number of sell orders.*
=> 9169	*BidNbOr*	*N*	*int*		*Total number of buy orders.*
=> 9750	*ChgFromSettlmnt*	*N*	*PriceOffset*		*Indicates the change from previous day's settlement price vs. last traded price.*
<Standard Message Trailer>		Y			

Market Data - Incremental Refresh (MsgType = 'X')

Сообщения типа Market Data – Incremental Refresh (MsgType ='X') отправляются клиенту сервером MICEX-FIX MARKET DATA при изменении рыночных данных по инструменту, для которого ранее клиентом было отправлено сообщение Market Data Request (MsgType ='V'), со значением поля SubscriptionRequestType = '1' (запрос snapshot с обновлениями). Это сообщение также отправляется в ответ на отказ от подписки на получение данных SubscriptionRequestType = ‘2’ (запрос на отказ от подписки).

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'X'
262	MDReqID	N	String		Identifier of Market Data Request message which this message is sent in response to.
268	NoMDEntries	Y	NumInGroup		Number of market data entries following.
=> 279	MDUpdateAction	Y	char	'0' (New) '1' (Change) '2' (Delete)	Type of market data update action.
=> 269	MDEntryType	N	char	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening price) '5' (Closing price) '6' (Settlement price) '7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) *'B' (Trade volume)* *'C' (Open interest)* *'N' (Session high bid)* *'O' (Session low*	Type of market data entry. Required if MDUpdateAction (279) = '0'.

				offer) *'h' (Open period price)* *'i' (Last bid price)* *'j' (Last offer price)* *'k' (Close period price)* *'l' (Market price 2)* *'m' (Market price)* *'n' (Last negotiated deal)* *'o' (Official open price)* *'p' (Official current price)* *'q' (Admitted quote)* *'r' (Official close price)* *'v' (Total bid volume)* *'w' (Total offer volume)* *'t' (Negotiated deals value)* *'u' (Duration)* *'z' (Trade list)*	
=> 278	MDEntryID	N	String		Unique market data entry identifier.
<Instrument>					
=> 55	Symbol	Y	String		Ticker symbol. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
</Instrument>					
=> 270	MDEntryPx	N	Price		Price of the market data entry. Required if MDUpdateAction (279) = '0' and MDEntryType (269) != 'A', 'B', 'C', 'J'.

=> 271	MDEntrySize	N	Qty		Quantity or volume represented by the market data entry. Required if MDUpdateAction (279) = '0' and MDEntryType (269) = '0', '1', '2', 'B', 'C'.
=> 272	MDEntryDate	N	UTCDateOnly		Date of market data entry.
=> 273	MDEntryTime	N	UTCTimeOnly		Time of market data entry.
=> 336	TradingSessionID	N	String		Identifier of trading session.
=> 276	QuoteCondition	N	MultipleValueString	'C' (Exchange best)	Space-delimited list of conditions describing a quote.
=> 277	TradeCondition	N	MultipleValueString	'J' (Next day trade) 'R' (Opening price) *'AJ' (Official closing price)*	Space-delimited list of conditions describing a trade.
=> 286	OpenCloseSettlFlag	N	MultipleValueString	'4' (Entry from previous business day)	Flag that identifies a market data entry.
=> 451	NetChgPrevDay	N	PriceOffset		Net change from previous day's closing price vs. last traded price.
=> 5384	*AccruedInterestAmt*	*N*	*Amt*		*Amount of accrued interest.*
=> 5510	*ChgFromWAPrice*	*N*	*PriceOffset*		*Indicates change from previous day's weighted average price vs. last traded price.*
=> 5511	*ChgOpenInterest*	*N*	*Qty*		*Indicates change from previous day's open interest.*
=> 6139	*TotalNumOfTrades*	*N*	*int*		*Total number of trades.*
=> 6143	*TradeValue*	*N*	*Amt*		*Trade value.*

=> 6608	*Yield*	*N*	*Percentage*		*Yield calculated at MDEntryPx (270).*
=> 9168	*OfferNbOr*	*N*	*int*		*Total number of sell orders.*
=> 9169	*BidNbOr*	*N*	*int*		*Total number of buy orders.*
=> 9750	*ChgFromSettlmnt*	*N*	*PriceOffset*		*Indicates the change from previous day's settlement price vs. last traded price.*
<Standard Message Trailer>		Y			

Email (MsgType = 'C')

Электронное письмо Email (MsgType = ‘C’) используется для информирования FIX клиентов в случае возникновения ошибки, которая не может быть описана в отказном сообщении (reject message). Это может быть ошибка при преобразовании формата данных из FIX во внутреннюю структуру данных, при преобразовании формата данных из внутренней структуры в FIX или невозможность восстановления постоянного состояния.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'C'
164	EmailThreadID	Y	String		Unique identifier for the email message thread.
94	EmailType	Y	char	'0' (New)	Email message type.
42	OrigTime	N	UTCTimestamp		Time of message origination.
147	Subject	Y	String		Subject of the email message.
33	LinesOfText	Y	NumInGroup		Specifies the number of repeating lines of text specified.
=> 58	Text	Y	String		Free format text string.
95	RawDataLength	N	Length		Byte length of RawData (96) field.
96	RawData	N	data		Unformatted raw data, can include bitmaps, word processor documents, etc.

<Standard Message Trailer>	Y			

Business Message Reject (MsgType ='j')

Сообщение типа Business Message Reject может отклонить сообщение бизнес-уровня, которое удовлетворяет требованиям уровня сессии и не может быть отклонено другим способом. Обратите внимание, что если сообщение не соответствует требованиям уровня сессии (например, длина сообщения указана неверно), в ответ посылается административное сообщение Reject (MsgType = ‘3’).

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'j'
45	RefSeqNum	N	SeqNum		MsgSeqNum (34) of rejected message.
372	RefMsgType	Y	String(10)		The MsgType (35) of the FIX message being referenced.
380	BusinessRejectReason	Y	int	'3' (Unsupported message type)	Code to identify reason for a Business Message Reject message.
58	Text	N	String		Free format text string.
<Standard Message Trailer>		Y			

FIX4.2 Message formats

FIX component blocks

Все сообщения начинаются со стандартного заголовка (header) и заканчиваются трейлером (trailer), который содержит контрольную сумму (checksum).

Standard Message Header

Каждое сообщение FIX содержит стандартный заголовок (header). Заголовок содержит версию протокола, длину сообщения, порядковый номер сообщения, тип сообщения и другую техническую информацию. Комментарий для тега MsgType (35) содержит список всех поддерживаемых типов сообщений. Неподдерживаемые типы сообщения и значения полей отклоняются Business Message Reject (j) сообщением с пояснительным текстом.

Tag	Field name	Req'd	Type	Valid values	Comments
8	BeginString	Y	String(7)	'FIX.4.2'	Identifies beginning of new message and protocol version. Always unencrypted, must be first field in message.
9	BodyLength	Y	int		Message length, in bytes, forward to the CheckSum field. Always unencrypted, must be second field in message.
35	MsgType	Y	String(10)		Defines message type. Always unencrypted, must be third field in message.
49	SenderCompID	Y	String		Assigned value used to identify firm sending message. Always unencrypted.
56	TargetCompID	Y	String		Assigned value used to identify receiving firm. Always unencrypted.
90	SecureDataLen	N	int		Byte length of SecureData (91) field. Always unencrypted. Required when encryption is used.
91	SecureData	N	data		Actual encrypted data stream. Required when encryption is used.
34	MsgSeqNum	Y	int		Integer message sequence number. Can be embedded within encrypted data section.
43	PossDupFlag	N	Boolean	'Y' (Possible duplicate) 'N' (Original transmission)	Indicates possible retransmission of message with this sequence number. Can be embedded within encrypted data section. Required for retransmitted messages.
52	SendingTime	Y	UTCTimestamp		Time of message transmission (expressed in UTC). Can be embedded within encrypted data section.

122	OrigSendingTime	N	UTCTimestamp		Original time of message transmission when transmitting messages as the result of resend request(expressed in UTC). Can be embedded within encrypted data section. Required for message resent as a result of a resend request.
347	MessageEncoding	N	String(11)	'UTF-8' (Unicode)	Type of message encoding (non-ASCII characters). Required if any "Encoding" fields are used.

Standard Message Trailer

Стандартный трейлер (trailer) завершает каждое сообщение, административное или бизнес-уровня. Обратитесь к Volume 2 описания FIX 4.2 (FIX 4.2 Specification) для подробной информации о расчете контрольной суммы.

Tag	Field name	Req'd	Type	Valid values	Comments
10	CheckSum	Y	String(3)		Three byte, simple checksum. Always unencrypted, always last field in message.

FIX session-level messages

Logon (MsgType = 'A')

Для установки сессии с MICEX-FIX MARKET DATA отправляется сообщение Logon (MsgType (35) = 'A'), где указываются имя пользователя и пароль.

MICEX-FIX MARKET DATA сбрасывает последовательность номеров FIX сессии в 1 каждый день в 07:40 MSK. До наступления этого времени клиент должен разорвать соединение с системой, в противном случае система сама разорвет соединение. Новую сессию клиент может устанавливать через 20 минут.

Клиент может разрывать и восстанавливать соединение сколько угодно раз в течение рабочего дня.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'A'
98	EncryptMethod	Y	int	'0' (None) '5' (PGP/DES-MD5)	Method of encryption. Always unencrypted.

108	HeartBtInt	Y	int		Heartbeat interval (seconds).
141	ResetSeqNumFlag	N	Boolean	'Y' (Yes) 'N' (No)	Indicates if the both sides of the FIX session should reset sequence numbers.
553	Username	Y	String		Username.
554	Password	Y	String		Password.
<Standard Message Trailer>		Y			

Logout (MsgType = '5')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '5'
58	Text	N	String		Logout reason.
<Standard Message Trailer>		Y			

Heartbeat (MsgType = '0')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '0'
112	TestReqID	N	String		Identifier included in Test Request (1) message to be returned in resulting Heartbeat (0).
<Standard Message Trailer>		Y			

Test Request (MsgType = '1')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '1'
112	TestReqID	Y	String		Identifier included in Test Request (1) message to be returned in resulting Heartbeat (0).

<Standard Message Trailer>		Y			

Resend Request (MsgType = '2')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '2'
7	BeginSeqNo	Y	int		Message sequence number of first message in range to be resent.
16	EndSeqNo	Y	int		Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo (7) = EndSeqNo (16). If request is for all messages subsequent to a particular message, EndSeqNo (16) = '0' (representing infinity).
<Standard Message Trailer>		Y			

Sequence Reset (MsgType = '4')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = '4'
123	GapFillFlag	N	Boolean	'Y' (Gap Fill message, MsgSeqNum field valid) 'N' (Sequence Reset, ignore MsgSeqNum)	Indicates that the Sequence Reset (4) message is replacing administrative or application messages which will not be resent.
36	NewSeqNo	Y	int		New sequence number.
<Standard Message Trailer>		Y			

Reject (MsgType = '3')

Tag	Field name	Req'd	Type	Valid values	Comments

<Standard Message Header>		Y			MsgType = '3'
45	RefSeqNum	Y	int		MsgSeqNum (34) of rejected message.
371	RefTagID	N	int		The tag number of the FIX field being referenced.
372	RefMsgType	N	String(10)		The MsgType (35) of the FIX message being referenced.
373	SessionRejectReason	N	int	'0' (Invalid tag number) '1' (Required tag missing) '2' (Tag not defined for this message type) '3' (Undefined tag) '4' (Tag specified without a value) '5' (Value is incorrect (out of range) for this tag) '6' (Incorrect data format for value) '7' (Decryption problem) '8' (Signature problem) '9' (CompID problem) '10' (SendingTime accuracy problem) '11' (Invalid MsgType)	Code to identify reason for reject.
58	Text	N	String		Message to explain reason for rejection.
<Standard Message Trailer>		Y			

FIX application-level messages

Security Definition Request (MsgType = 'c')

Сообщение Security Definition Request (MsgType ='c') используется для запроса информации об инструменте. Запрашиваемый инструмент может быть определен как множественный (multileg) инструмент, состоящий из одного или больше инструментов.

Подписка на получение статуса инструмента (security status) может быть опционально определена включением поля SubscriptionRequestType (263) в сообщение.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'c'
320	SecurityReqID	Y	String		Unique identifier of Security Definition Request message.
321	SecurityRequestType	Y	int	'3' (Request list of securities)	Type of Security Definition Request message.
336	TradingSessionID	Y*	String		Optional identifier of trading session to specify a particular trading session for which you want to obtain a list of securities.
<Standard Message Trailer>		Y			

Security Status Request (MsgType = 'e')

Security Status Request (MsgType ='e') используется для получения состояния инструмента (Security) как snapshot или snapshot с обновлениями. Для инструмента разрешается только одна подписка.

Если SubscriptionRequestType (263) = 0 (запрос snapshot), клиенту будет отправлено сообщение Security Status (MsgType = 'f') с информацией по snapshot. Если запрос не может быть выполнен, будет отправлено сообщение Reject.

Если SubscriptionRequestType (263) = 1 (запрос snapshot с обновлениями), будет отправлен начальный Security Status (MsgType = 'f'). с информацией по snapshot, а вслед за ним сообщения с обновлениями статуса интсрумента по мере их появления. Если подписка не может быть выполнена будет отправлено сообщение Reject.

Если SubscriptionRequestType (263) = 2 (отказ от подписки), будет отправлено сообщение типа Security Status (MsgType ='f') без информации об обновлениях. Никакие обновления в дальнейшем получаться не будут, поскольку подписка была отменена. Если отказ от подписки не может быть выполнен, будет отправлено сообщение Reject.

Для любого другого значения SubscriptionRequestType будет отправлено сообщение Reject.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'e'

324	SecurityStatusReqID	Y	String		Unique identifier of Security Status Request message.
55	Symbol	Y	String		Ticker symbol of the security for which status is reported. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
48	SecurityID	N	String		Security identifier value (e.g. CUSIP, SEDOL, ISIN, etc).
22	IDSource	N	String	'4' (ISIN number)	Identifies class or source of the security identifier value. Required if SecurityID (48) is specified.
263	SubscriptionRequestType	Y	char	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe)) '2' (Unsubscribe)	Type of subscription request.
336	TradingSessionID	Y*	String		Optional identifier of trading session.
<Standard Message Trailer>		Y			

Security Definition (MsgType = 'd')

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'd'
320	SecurityReqID	Y	String		Identifier of Security Definition Request message which this message is sent in response to.
322	SecurityResponseID	Y	String		Unique identifier of Security Definition message.
323	SecurityResponseType	Y	int	'4' (List of securities returned per request) '6' (Can not match selection criteria)	Type of Security Definition message.

				'100' (Initial download from corresponding MICEX market has not been performed yet)	
393	TotalNumSecurities	Y	int		Total number of securities.
55	Symbol	N	String		Ticker symbol of the requested security. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
48	SecurityID	N	String		Security identifier value (e.g. CUSIP, SEDOL, ISIN, etc).
22	IDSource	N	String	'4' (ISIN number)	Identifies class or source of the security identifier value. Required if SecurityID (48) is specified.
167	SecurityType	N	String	'CORP' (Corporate bond) 'CS' (Common stock) 'FOR' (Foreign exchange contract) 'FUT' (Future) 'MF' (Mutual Fund) 'MUNI' (Municipal bond) 'OPT' (Option) 'PS' (Preferred stock) 'RP' (Repurchase agreement) *'EUSOV' (Euro sovereigns)* *'BN' (Bank notes)* *'INDEX' (Index)*	Indicates type of security.

200	MaturityMonthYear	N	month-year		Specifies the month and year of maturity.
205	MaturityDay	N	day-of-month		Day of month, can be used in conjunction with MaturityMonthYear (200) to specify the maturity date.
201	PutOrCall	N	int	'0' (Put) '1' (Call)	Indicates whether an option is for a put or call.
202	StrikePrice	N	Price		Strike price for an option.
206	OptAttribute	N	char	'L' (Long (a.k.a. 'American'))	Used for derivatives, such as options and covered warrants to indicate a versioning of the contract when required due to corporate actions to the underlying.
223	CouponRate	N	float		The rate of interest that, when multiplied by the principal, par value, or face value of a bond, provides the currency amount of the periodic interest payment.
107	SecurityDesc	N	String		Security description.
350	EncodedSecurityDescLen	N	int		Byte length of encoded (non-ASCII characters) EncodedSecurityDesc (351) field.
351	EncodedSecurityDesc	N	data		Encoded (non-ASCII characters) representation of the SecurityDesc (107) field in the encoded format specified via the MessageEncoding (347) field.
146	NoRelatedSym	N	int		Number of underlying instruments following.
=> 311	UnderlyingSymbol	N	String		Underlying security's Symbol. See Symbol (55) field for description. Required if NoRelatedSym (146) > 0.
15	Currency	N	Currency		Instrument currency.
336	TradingSessionID	N	String		Identifier of trading session.
58	Text	N	String		Comment, instructions, or other identifying information.

120	*SettlCurrency*	*N*	*Currency*		*Currency code of settlement denomination.*
224	*CouponPaymentDate*	*N*	*LocalMktDate*		*Date interest is to be paid.*
228	*Factor*	*N*	*float*		*For Fixed Income: amorization factor for deriving Current face from Original face for ABS or MBS securities.* *In TIPS securities this is the Inflation index.* *Qty * Factor * Price = Gross Trade Amount.* *For Derivatives: Contract Value Factor by which price must be adjusted to determine the true nominal value of one futures/options contract. (Qty * Price) * Factor = Nominal Value.*
423	*PriceType*	*N*	*int*	*'1' (Percentage (e.g. percent of par))* *'2' (Per unit (i.e. per share or contract))*	*Code to represent the price type.*
561	*RoundLot*	*N*	*Qty*		*The trading lot size of a security.*
5217	*StateSecurityID*	*N*	*String*		*State security identification number.*
5382	*EncodedShortSecurityDescLen*	*N*	*int*		*Byte length of encoded (non-ASCII characters) EncodedShortSecurityDesc (5383) field.*
5383	*EncodedShortSecurityDesc*	*N*	*data*		*Encoded (non-ASCII characters) representation of the short security description in the encoded format specified via the MessageEncoding (347) field.*
5385	*MarketCode*	*N*	*String*		*Code of market where instrument is traded.*
5386	*MinPriceIncrement*	*N*	*Price*		*Minimum price increase for security.*
5387	*MktShareLimit*	*N*	*float*		*Market share limit.*
5388	*MktShareThreshold*	*N*	*Qty*		*Market share limit threshold.*

5389	*MaxOrdersVolume*	*N*	*Qty*		*Maximum summary volume of active buy and sell orders.*
5470	*PriceMvmLimit*	*N*	*Price*		*Maximum deviation of prices from settlement price.*
5472	*PriceMvmLimitT1*	*N*	*Price*		*Maximum deviation of prices from settlement price at T+1.*
5508	*FaceValue*	*N*	*Amt*		*Face value of security.*
5512	*FirstEligibleTradeDate*	*N*	*LocalMktDate*		*First eligible trade date.*
5513	*LastEligibleTradeDate*	*N*	*LocalMktDate*		*Last eligible trade date.*
5514	*InstrumentPricePrecision*	*N*	*int*		*Number of decimals in prices.*
5556	*BaseSwapPx*	*N*	*Price*		*Base SWAP price.*
5558	*BuyBackPx*	*N*	*Price*		*Buy back price.*
5559	*BuyBackDate*	*N*	*LocalMktDate*		*Buy back date.*
5677	*Repo2Px*	*N*	*Price*		*Price of the second part of REPO.*
7595	*NoSharesIssued*	*N*	*Qty*		*Number of shares issued.*
7910	*DayCountFraction*	*N*	*String*		*Describes the method used for calculating accrued interest for a bond.*
9127	*DeliveryType*	*N*	*char*	*'1' (Cash settled)* *'2' (Physical delivery)*	*Specifies type of delivery for futures and options.*
9199	*HighLimit*	*N*	*Price*		*Allowable high limit price for the trading day.*
9200	*LowLimit*	*N*	*Price*		*Allowable low limit price for the trading day.*
<Standard Message Trailer>		Y			

Security Status (MsgType = 'f')

Сообщение типа Security Status (MsgType ='f') содержит информацию о состоянии инструмента в торговой системе.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'f'
324	SecurityStatusReqID	N	String		Identifier of Security Status Request message which this message is sent in response to.
55	Symbol	Y	String		Ticker symbol of the security for which status is reported. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
336	TradingSessionID	N	String		Optional identifier of trading session.
326	SecurityTradingStatus	N	int	'2' (Trading halt) '17' (Ready to trade (start of session)) '18' (Not available for trading (end of session)) '20' (Unknown or invalid) '100' (Initial download from corresponding MICEX market has not been performed yet)	Identifies the trading status applicable to the transaction.
58	Text	N	String		Comment, instructions, or other identifying information.
5509	*AuctionIndicator*	*N*	*Boolean*	*'Y' (Yes)* *'N' (No)*	*Indicates whether or not the auction is being held for the security.*
<Standard Message Trailer>		Y			

Trading Session Status (MsgType = 'h')

Сообщение типа Trading Session Status (MsgType = ‘h’) предоставляет информацию о состоянии на рынке и отправляется с сервера в следующих случаях:

- Соединение с MICEX установлено успешно в начале дня или после перерыва
- Соединение с MICEX не установлено успешно или было прервано и MICEX-FIX MARKET DATA пытается восстановить его
- В конце дня MICEX-FIX MARKET DATA прерывает соединение с MICEX
- После потери и восстановления соединения MICEX-FIX MARKET DATA определяет, что TradingSessionId сессии был изменен
- После потери соединения MICEX-FIX MARKET DATA не может восстановить соединение

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'h'
336	TradingSessionID	Y	String		Optional identifier of trading session.
325	UnsolicitedIndicator	N	Boolean	'Y' (Yes) 'N' (No)	Indicates whether or not message is being sent as a result of a subscription request or not.
340	TradSesStatus	Y	int	*'100' (Trading system restarted)* *'101' (Connection to MICEX market established)* *'102' (Connection to MICEX market terminated correctly)* *'103' (Connection to MICEX market terminated non-gracefully)* *'104' (Reconnecting to MICEX market)*	State of the trading session.
58	Text	N	String		Free format text string.
<Standard Message Trailer>		Y			

Market Data Request (MsgType = 'V')

Сообщение типа Market Data Request используется для запроса рыночной информации для указанного в сообщении инструмента. Поле SubscriptionRequestType (263) определяет тип запрашиваемой информации:

- Если SubscriptionRequestType (263) = 0 (запрос snapshot), будет возвращено сообщение типа Market Data Snapshot/Full Refresh (MsgType ='W'), содержащее рыночные данные на момент получения запроса (snapshot, снимок текущего состояния). Если запрос не может быть выполнен, будет возвращено сообщение типа Market Data - Request Reject (MsgType ='Y').
- Если SubscriptionRequestType (263) = 1 (запрос snapshot с обновлениями), сервером будет отправлено начальное сообщение типа Market Data Snapshot / Full Refresh (MsgType ='W'), содержащее информацию о snapshot, и далее будут отправляться сообщения типа Market Data Incremental Refresh (MsgType ='X'), содержащие обновления рыночных данных (market data) по мере их возникновения. Если подписка не может быть выполнена, будет возвращено сообщение типа Market Data - Request/Reject (MsgType ='Y').
- Если SubscriptionRequestType (263) = 2 (отказ от подписки), будет отправлено сообщение типа Market Data – Incremental Refresh (MsgType ='X') без информации об обновлениях. Никаких обновлений за этим не последует, поскольку подписка была отменена. Если отказ от подписки не может быть выполнен, будет возвращено сообщение типа Market Data - Request Reject (MsgType ='Y').

Для любого другого значения SubscriptionRequestType будет возвращено сообщение типа Market Data - Request Reject (MsgType ='Y').

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'V'
262	MDReqID	Y	String		Unique identifier of Market Data Request message when new subscription/request is sent, or identifier of previous Market Data Request message in case of unsubscribe.
263	SubscriptionRequestType	Y	char	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe)) '2' (Unsubscribe)	Type of subscription request.
264	MarketDepth	Y	int	'0' (Full Book) '1' (Top of Book)	Depth of market.
265	MDUpdateType	N	int	'1' (Incremental Refresh)	Specifies the type of market data update. Required if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	Y	int		Number of MDEntryType fields requested.

=> 269	MDEntryType	Y	char	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening price) '5' (Closing price) '6' (Settlement price) '7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) *'B' (Trade volume)* *'C' (Open interest)* *'N' (Session high bid)* *'O' (Session low offer)* *'h' (Open period price)* *'i' (Last bid price)* *'j' (Last offer price)* *'k' (Close period price)* *'l' (Market price 2)* *'m' (Market price)* *'n' (Last negotiated deal)* *'o' (Official open price)* *'p' (Official current price)* *'q' (Admitted quote)* *'r' (Official close price)* *'v' (Total bid volume)* *'w' (Total offer volume)* *'t' (Negotiated deals value)* *'u' (Duration)* *'y' (Market statistics)* *'z' (Trade list)* *'*' (All market data)*	Type of market data entry.
146	NoRelatedSym	Y	int		Number of instruments requested.

=> 55	Symbol	Y	String		Ticker symbol of requested instrument. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
=> 48	SecurityID	N	String		Security identifier value (e.g. CUSIP, SEDOL, ISIN, etc).
=> 22	IDSource	N	String	'4' (ISIN number)	Identifies class or source of the security identifier value. Required if SecurityID (48) is specified.
=> 336	TradingSessionID	Y*	String		Identifier of trading session.
<Standard Message Trailer>		Y			

Market Data Request Reject (MsgType = 'Y')

Сообщение типа Market Data Request Reject (MsgType = 'Y') отправляется в том случае, когда запрос Market Data Request не может быть выполнен.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'Y'
262	MDReqID	Y	String		Identifier of Market Data Request message which is rejected.
281	MDReqRejReason	N	char	'0' (Unknown symbol) '1' (Duplicate MDReqID) '3' (Insufficient permissions) '4' (Unsupported SubscriptionRequestType) '8' (Unsupported MDEntryType) '9' (Unsupported TradingSessionID) *'x' (Instrument is not traded at board)* *'y' (Unknown MDReqID)*	Reason for the rejection of Market Data Request message.

				'z' (Initial download from corresponding MICEX market has not been performed yet)	
58	Text	N	String		Message to explain reason for rejection.
<Standard Message Trailer>		Y			

Market Data - Snapshot/Full Refresh (MsgType = 'W')

Сообщение типа The Market Data – Snapshot/Full Refresh (MsgType = 'W') отправляется в качестве ответа на сообщение типа Market Data Request (MsgType = 'V'), в котором SubscriptionRequestType = '0' (запрос snapshot).

Во всех случаях каждое сообщение типа Market Data – Snapshot/Full Refresh (MsgType = 'W') соответствует одному Market Data Request (MsgType = 'V'). Значение тэга MDReqID(262) должно совпадать со значением этого тэга в соответствующем сообщении Market Data Request (MsgType = 'V').

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'W'
262	MDReqID	N	String		Identifier of Market Data Request message which this message is sent in response to.
55	Symbol	Y	String		Ticker symbol of the requested security. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
451	*NetChgPrevDay*	*N*	*PriceOffset*		*Net change from previous day's closing price vs. last traded price.*
268	NoMDEntries	Y	int		Number of market data entries following.
=> 269	MDEntryType	Y	char	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening	Type of market data entry.

				price) '5' (Closing price) '6' (Settlement price) '7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) *'B' (Trade volume)* *'C' (Open interest)* *'J' (Empty book)* *'N' (Session high bid)* *'O' (Session low offer)* *'h' (Open period price)* *'i' (Last bid price)* *'j' (Last offer price)* *'k' (Close period price)* *'l' (Market price 2)* *'m' (Market price)* *'n' (Last negotiated deal)* *'o' (Official open price)* *'p' (Official current price)* *'q' (Admitted quote)* *'r' (Official close price)* *'v' (Total bid volume)* *'w' (Total offer volume)* *'t' (Negotiated deals value)*	

				'u' (Duration) *'z' (Trade list)*	
=> 278	MDEntryID	N	String		Unique market data entry identifier.
=> 270	MDEntryPx	Y	Price		Price of the market data entry.
=> 271	MDEntrySize	N	Qty		Quantity or volume represented by the market data entry. Required if MDEntryType (269) = '0', '1', '2'.
=> 272	MDEntryDate	N	UTCDate		Date of market data entry.
=> 273	MDEntryTime	N	UTCTimeOnly		Time of market data entry.
=> 336	TradingSessionID	N	String		Identifier of trading session.
=> 276	QuoteCondition	N	MultipleValueString	'C' (Exchange best)	Space-delimited list of conditions describing a quote.
=> 277	TradeCondition	N	MultipleValueString	'J' (Next day trade) *'R' (Opening price)* *'AJ' (Official closing price)*	Space-delimited list of conditions describing a trade.
=> 286	OpenCloseSettlFlag	N	char	'4' (Entry from previous business day)	Flag that identifies a market data entry.
=> 5384	*AccruedInterestAmt*	*N*	*Amt*		*Amount of accrued interest.*
=> 5510	*ChgFromWAPrice*	*N*	*PriceOffset*		*Indicates change from previous day's weighted average price vs. last traded price.*
=> 5511	*ChgOpenInterest*	*N*	*Qty*		*Indicates change from previous day's open interest.*

=> 6139	*TotalNumOfTrades*	*N*	*int*		*Total number of trades.*
=> 6143	*TradeValue*	*N*	*Amt*		*Trade value.*
=> 6608	*Yield*	*N*	*float*		*Yield calculated at MDEntryPx (270).*
=> 9168	*OfferNbOr*	*N*	*int*		*Total number of sell orders.*
=> 9169	*BidNbOr*	*N*	*int*		*Total number of buy orders.*
=> 9750	*ChgFromSettlmnt*	*N*	*PriceOffset*		*Indicates the change from previous day's settlement price vs. last traded price.*
<Standard Message Trailer>		Y			

Market Data — Incremental Refresh (MsgType = 'X')

Сообщения типа Market Data – Incremental Refresh (MsgType ='X') отправляются клиенту сервером MICEX-FIX MARKET DATA при изменении рыночных данных по инструменту, для которого ранее клиентом было отправлено сообщение Market Data Request (MsgType ='V'), со значением поля SubscriptionRequestType = '1' (запрос snapshot с обновлениями). Это сообщение также отправляется в ответ на отказ от подписки на получение данных SubscriptionRequestType = ‘2’ (запрос на отказ от подписки).

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'X'
262	MDReqID	N	String		Identifier of Market Data Request message which this message is sent in response to.
268	NoMDEntries	Y	int		Number of market data entries following.
=> 279	MDUpdateAction	Y	char	'0' (New) '1' (Change) '2' (Delete)	Type of market data update action.

=> 269	MDEntryType	N	char	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening price) '5' (Closing price) '6' (Settlement price) '7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) *'B' (Trade volume)* *'C' (Open interest)* *'N' (Session high bid)* *'O' (Session low offer)* *'h' (Open period price)* *'i' (Last bid price)* *'j' (Last offer price)* *'k' (Close period price)* *'l' (Market price 2)* *'m' (Market price)* *'n' (Last negotiated deal)* *'o' (Official open price)* *'p' (Official current price)* *'q' (Admitted quote)* *'r' (Official close price)* *'v' (Total bid*	Type of market data entry. Required if MDUpdateAction (279) = '0'.

				volume) *'w' (Total offer volume)* *'t' (Negotiated deals value)* *'u' (Duration)* *'z' (Trade list)*	
=> 278	MDEntryID	N	String		Unique market data entry identifier.
=> 55	Symbol	N	String		Ticker symbol of the requested security. Common, "human understood" representation of the security. "[N/A]" is used for products which do not have a symbol.
=> 270	MDEntryPx	N	Price		Price of the market data entry. Required if MDUpdateAction (279) = '0'.
=> 271	MDEntrySize	N	Qty		Quantity or volume represented by the market data entry. Required if MDUpdateAction (279) = '0' and MDEntryType (269) = '0', '1', '2'.
=> 272	MDEntryDate	N	UTCDate		Date of market data entry.
=> 273	MDEntryTime	N	UTCTimeOnly		Time of market data entry.
=> 336	TradingSessionID	N	String		Identifier of trading session.
=> 276	QuoteCondition	N	MultipleValueString	'C' (Exchange best)	Space-delimited list of conditions describing a quote.
=> 277	TradeCondition	N	MultipleValueString	'J' (Next day trade) *'R' (Opening price)* *'AJ' (Official closing price)*	Space-delimited list of conditions describing a trade.
=> 286	OpenCloseSettlFlag	N	char	'4' (Entry from previous business	Flag that identifies a market data entry.

				day)	
=> 451	*NetChgPrevDay*	*N*	*PriceOffset*		*Net change from previous day's closing price vs. last traded price.*
=> 5384	*AccruedInterestAmt*	*N*	*Amt*		*Amount of accrued interest.*
=> 5510	*ChgFromWAPrice*	*N*	*PriceOffset*		*Indicates change from previous day's weighted average price vs. last traded price.*
=> 5511	*ChgOpenInterest*	*N*	*Qty*		*Indicates change from previous day's open interest.*
=> 6139	*TotalNumOfTrades*	*N*	*int*		*Total number of trades.*
=> 6143	*TradeValue*	*N*	*Amt*		*Trade value.*
=> 6608	*Yield*	*N*	*float*		*Yield calculated at MDEntryPx (270).*
=> 9168	*OfferNbOr*	*N*	*int*		*Total number of sell orders.*
=> 9169	*BidNbOr*	*N*	*int*		*Total number of buy orders.*
=> 9750	*ChgFromSettlmnt*	*N*	*PriceOffset*		*Indicates the change from previous day's settlement price vs. last traded price.*
<Standard Message Trailer>		Y			

Email (MsgType = 'C')

Электронное письмо Email (MsgType = ‘C’) используется для информирования FIX клиентов в случае возникновения ошибки, которая не может быть описана в отказном сообщении (reject message). Это может быть ошибка при преобразовании формата данных из FIX во внутреннюю структуру данных, при преобразовании формата данных из внутренней структуры в FIX или невозможность восстановления постоянного состояния.

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'C'
164	EmailThreadID	Y	String		Unique identifier for the email message thread.
94	EmailType	Y	char	'0' (New)	Email message type.
42	OrigTime	N	UTCTimestamp		Time of message origination.
147	Subject	Y	String		Subject of the email message.
33	LinesOfText	Y	int		Specifies the number of repeating lines of text specified.
=> 58	Text	Y	String		Free format text string.
95	RawDataLength	N	int		Byte length of RawData (96) field.
96	RawData	N	data		Unformatted raw data, can include bitmaps, word processor documents, etc.
<Standard Message Trailer>		Y			

Business Message Reject (MsgType = 'j')

Сообщение типа Business Message Reject может отклонить сообщение бизнес-уровня, которое удовлетворяет требованиям уровня сессии и не может быть отклонено другим способом. Обратите внимание, что если сообщение не соответствует требованиям уровня сессии (например, длина сообщения указана неверно), в ответ посылается административное сообщение Reject (MsgType = '3').

Tag	Field name	Req'd	Type	Valid values	Comments
<Standard Message Header>		Y			MsgType = 'j'
45	RefSeqNum	N	int		MsgSeqNum(34) of rejected message.
372	RefMsgType	Y	char		MsgType(35) of rejected message.
380	BusinessRejectReason	Y	int	'3' (Unsupported	Code to identify reason for reject.

				Message Type)	
58	Text	N	String		Message to explain reason for rejection.
<Standard Message Trailer>		Y			

Usage of Market Data messages

Market Data Request

Сообщение типа Market Data Request (MsgType = 'V') используется для подписки /отказа от подписки на market data. Тэги и значения, которые должны быть использованы для разных типов Market Data, описаны ниже.

Request Snapshot/Subscribe for MarketData

Сообщение Market Data Request со следующими параметрами отправляется для запроса snapshot/subscribe для Market Data:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	
264	MarketDepth	'0' (Full Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	'1'	
=> 269[1]	MDEntryType	'*'[*](Market Data)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Request Snapshot/Subscribe for OrderBook

Сообщение Market Data Request со следующими параметрами должно быть отправлено для запроса snapshot/subscribe для Order Book:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	
264	MarketDepth	'0' (Full Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	'2'	
=> 269[1]	MDEntryType	'0' (Bid)	
=> 269[2]	MDEntryType	'1' (Offer)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Request Snapshot/Subscribe for TradeList

Сообщение Market Data Request со следующими параметрами должно быть отправлено для запроса snapshot/subscribe для Trade List:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	

264	MarketDepth	'0' (Full Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	'1'	
=> 269[1]	MDEntryType	'z'* (Trade list)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Request Snapshot/Subscribe for MarketStatistics

Сообщение Market Data Request со следующими параметрами должно быть отправлено для запроса snapshot/subscribe для Market Statistics:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	
264	MarketDepth	'0' (Full Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	'1'	
=> 269[1]	MDEntryType	'y'* (Market Statistics)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Сообщение Market Data Request со следующими параметрами должно быть отправлено для запроса snapshot/subscribe для BestBid/BestOffer:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	
264	MarketDepth	'1' (Top of Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	'2'	
=> 269[1]	MDEntryType	'0' (Bid)	
=> 269[2]	MDEntryType	'1' (Offer)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Market Data Request message со следующими параметрами должно быть отправлено для запроса snapshot/subscribe для Last Trade, Weighted Average, Settlement, Open Interest, Open Price, Close Price, High Price, Low Price, High Bid Price, Low Offer Price, Volume Today, Admitted Quote, Bid Total, Offer Total, Market, Closing, Official Close, Negotiated Deals Today, Last Bid Price, Last Offer Price, Market Price 2, Opening Price, Last Negotiated Deal, Official Open Price, Official Current Price, Duration:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	
264	MarketDepth	'0' (Full Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.

267	NoMDEntryTypes	'26'	
=> $269_{[1]}$	MDEntryType	'2' (Trade)	
=> $269_{[2]}$	MDEntryType	'4' (Opening price)	
=> $269_{[3]}$	MDEntryType	'5' (Closing price)	
=> $269_{[4]}$	MDEntryType	'6' (Settlement price)	
=> $269_{[5]}$	MDEntryType	'7' (Trading session high price)	
=> $269_{[6]}$	MDEntryType	'8' (Trading session low price)	
=> $269_{[7]}$	MDEntryType	'9' (Trading session VWAP price)	
=> $269_{[8]}$	MDEntryType	'B' (Trade volume)	
=> $269_{[9]}$	MDEntryType	'C' (Open Interest)	
=> $269_{[10]}$	MDEntryType	'N'* (Session high bid)	
=> $269_{[11]}$	MDEntryType	'O'* (Session low offer)	
=> $269_{[12]}$	MDEntryType	'h'* (Open period price)	
=> $269_{[13]}$	MDEntryType	'i'* (Last bid price)	
=> $269_{[14]}$	MDEntryType	'j'* (Last offer price)	
=> $269_{[15]}$	MDEntryType	'k'* (Close period price)	

=> 269[16]	MDEntryType	'l'*(Market price 2)	
=> 269[17]	MDEntryType	'm'* (Market price)	
=> 269[18]	MDEntryType	'n'* (Last negotiated deal)	
=> 269[19]	MDEntryType	'o'* (Official open price)	
=> 269[20]	MDEntryType	'p'* (Official current price)	
=> 269[21]	MDEntryType	'q'* (Admitted quote)	
=> 269[22]	MDEntryType	'r'* (Official close price)	
=> 269[23]	MDEntryType	'v'* (Total bid volume)	
=> 269[24]	MDEntryType	'w'* (Total offer volume)	
=> 269[25]	MDEntryType	't'* (Negotiated deals value)	
=> 269[26]	MDEntryType	'u'* (Duration)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Внимание: Можно подписаться на любую комбинацию этих элементов, а не на все сразу. В этом случае только необходимые элементы (соответствующие значения тэга MDEntryType (269)) должны быть включены в сообщение типа Market Data Request.

Subscribe for Index information

Сообщение Market Data Request со следующими параметрами должно быть отправлено для запроса snapshot/subscribe для индекса:

Tag	Field name	Value	Comment
262	MDReqID	<NewReqID>	New unique identifier of Market Data Request message should be generated.
263	SubscriptionRequestType	'0' (Snapshot) '1' (Snapshot + Updates (Subscribe))	
264	MarketDepth	'0' (Full Book)	
265	MDUpdateType	'1' (Incremental Refresh)	This tag should be present only if SubscriptionRequestType (263) = '1'.
267	NoMDEntryTypes	'1'	
=> 269[1]	MDEntryType	'3' (Index value)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Unsubscribe

Tag	Field name	Value	Comment
262	MDReqID	<ReqIDFromRequest>	Identifier of corresponding Market Data Request (Subscribe) message.
263	SubscriptionRequestType	'2' (Unsubscribe)	
264	MarketDepth	'0' (Full Book) '1' (Top of Book)	Should match value which was sent in corresponding Market Data Request (Subscribe) message.
267	NoMDEntryTypes	<RecordsNo>	Should match value which was sent in corresponding Market Data Request (Subscribe) message.
=> 269[i]	MDEntryType	'0' (Bid) '1' (Offer) '2' (Trade) '3' (Index value) '4' (Opening price) '5' (Closing price) '6' (Settlement price)	Should match value which was sent in corresponding Market Data Request (Subscribe) message.

		'7' (Trading session high price) '8' (Trading session low price) '9' (Trading session VWAP price) 'B' (Trade volume) 'C' (Open interest) 'N'* (Session high bid) 'O'* (Session low offer) 'h'* (Open period price) 'i'* (Last bid price) 'j'* (Last offer price) 'k'* (Close period price) 'l'* (Market price 2) 'm'* (Market price) 'n'* (Last negotiated deal) 'o'* (Official open price) 'p'* (Official current price) 'q'* (Admitted quote) 'r'* (Official close price) 'v'* (Total bid volume) 'w'* (Total offer volume) 't'* (Negotiated deals value) 'u'* (Duration) 'y'* (Market statistics) 'z'* (Trade list) '*' (All market data)	
Tags related to instrument identification.			
Tags related to trading session identification.			

Market Data — Snapshot/Full Refresh

Сообщение типа Market Data — Snapshot/Full Refresh (MsgType = 'W') используется для отправки первого snapshot рыночных данных.

Внимание: Тэги и поля отмеченные * являются пользовательскими, т.е. они не определяются в соответствующих сообщениях/блоках в стандартном FIX 4.4 протоколе.

Snapshot for OrderBook

Сообщение Market Data — Snapshot/Full Refresh со следующими параметрами должно быть отправлено как пустой snapshot для OrderBook:

Tag	Field name	Value	Comment
262	MDReqID	<ReqIDFromRequest>	Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
268	NoMDEntries	'1'	
=> $269_{[1]}$	MDEntryType	'J'* (Empty book)	
=> Tags related to trading session identification.			

Сообщение Market Data — Snapshot/Full Refresh со следующими параметрами должно быть отправлено как непустой snapshot для OrderBook:

Tag	Field name	Value	Comment
262	MDReqID		Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
268	NoMDEntries		Number of entries depends on number of records in Order Book.
=> $269_{[i]}$	MDEntryType	'0' (Bid)	
=> $278_{[i]}$	MDEntryID	<TradeId>	Unique identifier of OrderBook entry.
=> $270_{[i]}$	MDEntryPx	Bid price	Price of OrderBook bid entry.
=> $271_{[i]}$	MDEntrySize	Bid quantity	Quantity of OrderBook bid entry.

=> 6608* [i]	Yield	Bid yield	Yield at bid price of OrderBook bid entry.
=> 269[j]	MDEntryType	'1' (Offer)	
=> 270[j]	MDEntryPx	Offer price	Price of OrderBook offer entry.
=> 271[j]	MDEntrySize	Offer quantity	Quantity of OrderBook offer entry.
=> 6608* [j]	Yield	Offer yield	Yield at offer price of OrderBook offer entry.
=> Tags related to trading session identification.			

Snapshot for TradeList

Сообщение Market Data — Snapshot/Full Refresh со следующими параметрами должно быть отправлено как пустой snapshot для TradeList:

Tag	Field name	Value	Comment
262	MDReqID	<ReqIDFromRequest>	Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
268	NoMDEntries	'1'	
=> 269[1]	MDEntryType	'J'* (Empty book)	
=> Tags related to trading session identification.			

Сообщение Market Data — Snapshot/Full Refresh со следующими параметрами должно быть отправлено как непустой snapshot для TradeList:

Tag	Field name	Value	Comment
262	MDReqID		Identifier of corresponding Market Data Request message is

			returned.
Tags related to instrument identification.			
268	NoMDEntries		Number of entries depends on number of records in TradeList.
=> 269[i]	MDEntryType	'z'* (Trade list)	
=> 270[i]	MDEntryPx	Trade price	Price of TradeList entry.
=> 271[i]	MDEntrySize	Trade quantity	Quantity of TradeList entry.
=> 273[i]	MDEntryTime	Trade time	Time of TradeList entry.
=> 277[i]	TradeCondition	'J' (Next day trade)	Trade condition of TradeList entry.
=> 278[i]	MDEntryID	Trade identifier	Unique identifier of TradeList entry.
=> 6143*[i]	TradeValue	Trade value	Value of TradeList entry.
=> 6608*[i]	Yield	Yield at trade price	Yield at trade price of TradeList entry.
=> 5384*[i]	AccruedInterestAmt	Accrued interest	Amount of accrued interest of TradeList entry.
=> Tags related to trading session identification.			

Snapshot for MarketStatistics

Сообщение Market Data — Snapshot/Full Refresh со следующими параметрами должно быть отправлено как пустой snapshot для BestBid/BestOffer:

Tag	Field name	Value	Comment
262	**MDReqID**		**Identifier of corresponding Market Data Request message is**

			returned.
Tags related to instrument identification.			
268	NoMDEntries	'1'	
=> 269[1]	MDEntryType	'J'* (Empty book)	
=> Tags related to trading session identification.			

Сообщение Market Data — Snapshot/Full Refresh со следующими параметрами должно быть отправлено как непустой snapshot для BestBid/BestOffer:

Tag	Field name	Value	Comment
262	**MDReqID**		**Identifier of corresponding Market Data Request message is returned.**
Tags related to instrument identification.			
268	NoMDEntries	'2'	
=> 269[1]	MDEntryType	'0' (Bid)	
=> 270[1]	MDEntryPx	Bid price	Price of best bid entry.
=> 271[1]	MDEntrySize	Bid quantity	Quantity of best bid entry.
=> 276[1]	QuoteCondition	'C' (Exchange best)	
=> 269[2]	MDEntryType	'1' (Offer)	
=> 270[2]	MDEntryPx	Offer price	Price of best offer entry.
=> 271[2]	MDEntrySize	Offer quantity	Quantity of best offer entry.

=> 276[2]	QuoteCondition	'C' (Exchange best)	
=> Tags related to trading session identification.			

Market Data — Snapshot/Full Refresh message со следующими параметрами должно быть отправлено как пустой для Last, High, Low, Open, Close, today's TradeVolume, HighBid, LowOffer, WeightedAveragePrice, SettlementPrice:

Tag	Field name	Value	Comment
262	MDReqID	<ReqIDFromRequest>	Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
268	NoMDEntries	'1'	
=> 269[1]	MDEntryType	'J'* (Empty book)	
=> Tags related to trading session identification.			

Market Data — Snapshot/Full Refresh message со следующими параметрами должно быть отправлено как непустой snapshot для Last Trade, Weighted Average, Settlement, Open Interest, Open Price, Close Price, High Price, Low Price, High Bid Price, Low Offer Price, Volume Today, Admitted Quote, Bid Total, Offer Total, Market, Closing, Official Close, Negotiated Deals Today, Last Bid Price, Last Offer Price, Market Price 2, Opening Price, Last Negotiated Deal, Official Open Price, Official Current Price, Duration:

Tag	Field name	Value	Comment
262	MDReqID		Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
451	NetChgPrevDay	Net change	Net change from previous day's closing price vs. last traded price.
268	NoMDEntries	'31'	
=> 269[1]	MDEntryType	'2' (Trade)	

=> 277[1]	TradeCondition	'J' (Next day trade)	Condition of trade.
=> 270[1]	MDEntryPx		Last Trade price.
=> 271[1]	MDEntrySize		Last Trade quantity.
=> 273[1]	MDEntryTime		Last Trade time.
=> 5510*[1]	ChgFromWAPrice		Change from previous day's weighted average price.
=> 9750*[1]	ChgFromSettlmnt		Change from previous day's settlement price.
=> 6143*[1]	TradeValue		Last Trade value.
=> 6608*[1]	Yield		Yield at Last Trade price.
=> 5384*[1]	AccruedInterestAmt	Accrued interest	Amount of accrued interest.
=> 269[2]	MDEntryType	'4' (Opening price)	
=> 270[2]	MDEntryPx		Open price.
=> 269[3]	MDEntryType	'5' (Closing price)	
=> 270[3]	MDEntryPx		Close price.
=> 269[4]	MDEntryType	'6' (Settlement price)	
=> 270[4]	MDEntryPx		Settlement price.
=>	MDEntryType	'6' (Settlement price)	

269[5]			
=> 272[5]	MDEntryDate	TradeDate	Last Trade date.
=> 286[5]	OpenCloseSettlFlag	'4' (Entry from previous business day)	
=> 270[5]	MDEntryPx		Previous day settlement price.
=> 269[6]	MDEntryType	'7' (Trading session high price)	
=> 270[6]	MDEntryPx		High price.
=> 269[7]	MDEntryType	'8' (Trading session low price)	
=> 270[7]	MDEntryPx		Low price.
=> 269[8]	MDEntryType	'9' (Trading session VWAP price)	
=> 270[8]	MDEntryPx		Weighted average price.
=> 6608*[8]	Yield		Yield at weighted average price.
=> 269[9]	MDEntryType	'9' (Trading session VWAP price)	
=> 286[9]	OpenCloseSettlFlag	'4' (Entry from previous business day)	
=> 270[9]	MDEntryPx		Previous day weighted average price.
=> 272[9]	MDEntryDate	Trade Date	Last Trade date.
=> 6608*[9]	Yield		Yield at previous day weighted average price.

=> 269[10]	MDEntryType	'B' (Trade volume)	
=> 271[10]	MDEntrySize	Trade volume	Today's volume.
=> 6143*[10]	Trade value		Today's trade value.
=> 6139*[10]	TotalNumOfTrades		Today's total number of trades
=> 269[11]	MDEntryType	'C' (Open Interest)	
=> 271[11]	MDEntrySize		Open Interest.
=> 5511*[11]	ChgOpenInterest	Open interest change	Change from previous day's open interest.
=> 269[12]	MDEntryType	'N'* (Session high bid)	
=> 270[12]	MDEntryPx		High bid price.
=> 269[13]	MDEntryType	'O'* (Session low offer)	
=> 270[13]	MDEntryPx		Low offer price.
=> 269[14]	MDEntryType	'h'* (Open period price)	
=> 270[14]	MDEntryPx	Opening price	Open period price.
=> 269[15]	MDEntryType	'i'* (Last bid price)	
=> 270[15]	LastBidPx		Last bid price.
=>	MDEntryType	'j'* (Last offer price)	

$269_{[16]}$			
=> $270_{[16]}$	MDEntryPx		Last offer price.
=> $269_{[17]}$	MDEntryType	'k'* (Close period price)	
=> $270_{[17]}$	MDEntryPx	Closing price	Close period price.
=> $6608^{*}_{[17]}$	Yield		Yield at close period price.
=> $269_{[18]}$	MDEntryType	'l'* (Market price 2)	
=> $270_{[18]}$	MDEntryPx		Market price 2.
=> $269_{[19]}$	MDEntryType	'm'* (Market price)	
=> $270_{[19]}$	MDEntryPx		Market price.
=> $269_{[20]}$	MDEntryType	'm'* (Market price)	
=> $286_{[20]}$	OpenCloseSettlFlag	'4' (Entry from previous business day)	
=> $270_{[20]}$	MDEntryPx		Previous day market price.
=> $272_{[20]}$	MDEntryDate	Entry date	Previous business date.
=> $269_{[21]}$	MDEntryType	'n'* (Last negotiated deal)	
=> $270_{[21]}$	MDEntryPx		Last negotiated deal.
=> $269_{[22]}$	MDEntryType	'o'* (Official open price)	

=> 270[22]	MDEntryPx		Official open price.
=> 269[23]	MDEntryType	'p'* (Official current price)	
=> 270[23]	MDEntryPx		Official current price.
=> 269[24]	MDEntryType	'q'* (Admitted quote)	
=> 270[24]	MDEntryPx		Admitted quote.
=> 269[25]	MDEntryType	'q'* (Admitted quote)	
=> 270[25]	MDEntryPx		Previous day admitted quote.
=> 286[25]	OpenCloseSettlFlag	'4' (Entry from previous business day)	
=> 272[25]	MDEntryDate		Previous business date.
=> 269[26]	MDEntryType	'r'* (Official close price)	
=> 270[26]	MDEntryPx		Official close price.
=> 269[27]	MDEntryType	'r'* (Official close price)	
=> 270[27]	MDEntryPx		Previous day official close price.
=> 286[27]	OpenCloseSettlFlag	'4' (Entry from previous business day)	
=> 272[27]	MDEntryDate		Previous business date.
=>	MDEntryType	'v'* (Total bid volume)	

269[28]			
=> 9169[28]	BidNbOr	Bid depth total	Total bid volume.
=> 269[29]	MDEntryType	'w'* (Total offer volume)	
=> 9168[29]	OfferNbOr	Offer depth total	Total offer volume.
=> 269[30]	MDEntryType	't'* (Negotiated deals value)	
=> 6143*[30]	TradeValue		Today's negotiated deals value
=> 6139*[30]	TotalNumOfTrades		Today's total number of negotiated deals
=> 269[31]	MDEntryType	'u'* (Duration)	
=> 273[31]	MDEntryTime		Duration.
=> Tags related to trading session identification.			

Snapshot for Index information

Market Data — Snapshot/Full Refresh message со следующими параметрами должно быть отправлено как пустой snapshot для индекса:

Tag	Field name	Value	Comment
262	MDReqID	<ReqIDFromRequest>	Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
268	NoMDEntries	'1'	
=> 269[1]	MDEntryType	'J'* (Empty book)	

=> Tags related to trading session identification.

Market Data — Snapshot/Full Refresh message со следующими параметрами должно быть отправлено как непустой snapshot для индекса:

Tag	Field name	Value	Comment
262	MDReqID		Identifier of corresponding Market Data Request message is returned.
Tags related to instrument identification.			
268	NoMDEntries	'3'	
=> 269[1]	MDEntryType	'3' (Index value)	
=> 270[1]	MDEntryPx		Last index value.
=> 273[1]	MDEntryTime	Last index time	Time of last update of last index value.
=> 6143*[1]	TradeValue		Today's index value.
=> 269[2]	MDEntryType	'3' (Index value)	
=> 277[2]	TradeCondition	'AJ'* (Official closing price)	
=> 270[2]	MDEntryPx		Close index value.
=> 269[3]	MDEntryType	'3' (Index value)	
=> 277[3]	TradeCondition	'R' (Opening price)	
=> 270[3]	MDEntryPx		Open index value.
=> Tags related to trading session identification.			

Если запрашивается Market Data — Snapshot/Full Refresh для MarketStatistics ((269) = 'y'), будет отправлена следующая последовательность сообщений:

- Snapshot for Best Bid/Best Offer
- Snapshot for other Market Statistics

Если запрашивается Market Data — Snapshot/Full Refresh for Market Data ((269) = '*'), будет отправлен запрос на следующий порядок сообщений.

Если инструмент не является индексом, то:

- Snapshot for Trade List
- Snapshot for Order Book
- Snapshot for Best Bid/Best Offer
- Snapshot for other Market Statistics

Если инструмент является индексом, то:

- Snapshot for Index Statistics.

MICEX-FIX MARKET DATA custom tags and values

FIX4.4 custom tags and values

Custom values

Tag	Field name	Value	Description
167	SecurityType	'MUNI'	Municipal Bond
269	MDEntryType	'J' 'N' 'O' 'h' 'i' 'j' 'k' 'l' 'm' 'n' 'o' 'p' 'q' 'r' 'v' 'w' 't' 'u' 'y' 'z' '*'	Empty book Session high bid Session low offer Open period price Last bid price Last offer price Close period price Market price 2 Market price Last negotiated deal Official open price Official current price Admitted quote Official close price Total bid volume Total offer volume Negotiated deals value Duration Market statistics Trade list All market data

277	TradeCondition	'AJ'	Official close price
281	MDReqRejReason	'x' 'y' 'z'	Instrument is not traded on board Unknown MDReqId Initial download from corresponding MICEX market has not been performed yet
323	SecurityResponseType	'100'	Initial download from corresponding MICEX market has not been performed yet.
326	SecurityTradingStatus	'100'	Initial download from corresponding MICEX market has not been performed yet.
340	TradSesStatus	'100' '101' '102' '103' '104'	Trading system restarted Connection to MICEX market established Connection to MICEX market terminated correctly Connection to MICEX market terminated non-gracefully Reconnecting to MICEX market
865	EventType	'7' '100'	Last eligible trade date First eligible trade date
871	InstrAttribType	'27'	Instrument price precision

Custom tags

Tag	Field name	Data type	Valid values	Description	Used in
5217	StateSecurityId	String		State security identification number.	Security Definition (MsgType = 'd')
5382	EncodedShortSecurityDescLen	Length		Byte length of encoded (non-ASCII characters) EncodedShortSecurityDesc (5383) field.	Security Definition (MsgType = 'd')
5383	EncodedShortSecurityDesc	data		Encoded (non-ASCII characters) representation of the short security description in the encoded format specified via the MessageEncoding (347) field.	Security Definition (MsgType = 'd')

5384	AccruedInterestAmt	Amt		Amount of accrued interest.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market Data - Incremental Refresh (Msgtype = 'X')
5385	MarketCode	String		Code of market where instrument is traded.	Security Definition (MsgType = 'd')
5386	MinPriceIncrement	Price		Minimum price increase for security.	Security Definition (MsgType = 'd')
5387	MktShareLimit	Percentage		Market share limit.	Security Definition (MsgType = 'd')
5388	MktShareThreshold	Qty		Market share limit threshold.	Security Definition (MsgType = 'd')
5389	MaxOrdersVolume	Qty		Maximum summary volume of active buy and sell orders.	Security Definition (MsgType = 'd')
5470	PriceMvmLimit	Price		Maximum deviation of prices from settlement price.	Security Definition (MsgType = 'd')
5472	PriceMvmLimitT1	Price		Maximum deviation of prices from settlement price at T+1.	Security Definition (MsgType = 'd')
5508	FaceValue	Amt		Face value of security.	Security Definition (MsgType = 'd')
5509	AuctionIndicator	Boolean	'Y' - Yes 'N' - No	Indicates whether or not the auction is being held for the security.	Security Status (MsgType = 'f')
5510	ChgFromWAPrice	PriceOffset		Indicates change from previous day's weighted average price vs. last traded price.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market Data - Incremental Refresh (Msgtype = 'X')
5511	ChgOpenInterest	Qty		Indicates change from previous day's open interest.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market Data - Incremental Refresh (Msgtype = 'X')

5556	BaseSwapPx	Price		Base SWAP price.	Security Definition (MsgType = 'd')
5558	BuyBackPx	Price		Buy back price.	Security Definition (MsgType = 'd')
5559	BuyBackDate	LocakMktDate		Buy back date.	Security Definition (MsgType = 'd')
5677	Repo2Px	Price		Price of the second part of REPO.	Security Definition (MsgType = 'd')
6139	TotalNumOfTrades	int		Total number of trades.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
6143	TradeValue	Amt		Trade value.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
6608	Yield	Percentage		Yield calculated at MDEntryPx (270).	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
7595	NoSharesIssued	Qty		Number of shares issued.	Security Definition (MsgType = 'd')
9168	OfferNbOr	int		Total number of sell orders.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
9169	BidNbOr	int		Total number of buy orders.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
9199	HighLimit	Price		Allowable high limit price for the trading day.	Security Definition (MsgType = 'd')
9200	LowLimit	Price		Allowable low limit price for the trading day.	Security Definition (MsgType = 'd')

9750	ChgFromSettlmnt	PriceOffset		Indicates the change from previous day's settlement price vs. last traded price.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X'

FIX4.2 custom tags and values

Custom values

Tag	Field name	Value	Description
167	SecurityType	'EUSOV' 'BN' 'INDEX'	Euro sovereigns Bank motes Index
269	MDEntryType	'B' 'C' 'J' 'N' 'O' 'h' 'i' 'j' 'k' 'l' 'm' 'n' 'o' 'p' 'q' 'r' 'v' 'w' 't' 'u' 'y' 'z' '*'	Trade volume Open interest Empty book Session high bid Session low offer Open period price Last bid price Last offer price Close period price Market price 2 Market price Last negotiated deal Official open price Official current price Admitted quote Official close price Total bid volume Total offer volume Negotiated deals value Duration Market statistics Trade list All market data
277	TradeCondition	'R' 'AJ'	Opening price Official close price
281	MDReqRejReason	'9' 'x' 'y'	Unsupported TradingSessionId Instrument is not traded on board Unknown MDReqId

		'z'	Initial download from corresponding MICEX market has not been performed yet
286	OpenCloseSettleFlag	'4'	Entry from previous business day
323	SecurityResponseType	'100'	Initial download from corresponding MICEX market has not been performed yet.
326	SecurityTradingStatus	'100'	Initial download from corresponding MICEX market has not been performed yet.
340	TradSesStatus	'100' '101' '102' '103' '104'	Trading system restarted Connection to MICEX market established Connection to MICEX market terminated correctly Connection to MICEX market terminated non-gracefully Reconnecting to MICEX market
865	EventType	'7' '100'	Last eligible trade date First eligible trade date
871	InstrAttribType	'27'	Instrument price precision

Custom tags

Tag	Field name	Data type	Valid values	Description	Used in
451	NetChgPrevDay	PriceOffset		Net change from previous day's closing price vs. last traded price.	Market Data - Snapshot/Full Refresh (MsgType = 'W')
553	Username	String		Username.	Logon (MsgType = 'A')
554	Password	String		Password	Logon (MsgType = 'A')
561	RoundLot	Qty		The trading lot size of a security.	Security Definition (MsgType = 'd')
5217	StateSecurityId	String		State security identification number.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X'), Security Definition (MsgType = 'd'),

					Security Status (MsgType = 'f')
5382	EncodedShortSecurityDescLen	Length		Byte length of encoded (non-ASCII characters) EncodedShortSecurityDesc (5383) field.	Security Definition (MsgType = 'd')
5383	EncodedShortSecurityDesc	data		Encoded (non-ASCII characters) representation of the short security description in the encoded format specified via the MessageEncoding (347) field.	Security Definition (MsgType = 'd')
5384	AccruedInterestAmt	Amt		Amount of accrued interest.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market Data - Incremental Refresh (Msgtype = 'X')
5385	MarketCode	String		Code of market where instrument is traded.	Security Definition (MsgType = 'd')
5386	MinPriceIncrement	Price		Minimum price increase for security.	Security Definition (MsgType = 'd')
5387	MktShareLimit	Percentage		Market share limit.	Security Definition (MsgType = 'd')
5388	MktShareThreshold	Qty		Market share limit threshold.	Security Definition (MsgType = 'd')
5389	MaxOrdersVolume	Qty		Maximum summary volume of active buy and sell orders.	Security Definition (MsgType = 'd')
5470	PriceMvmLimit	Price		Maximum deviation of prices from settlement price.	Security Definition (MsgType = 'd')
5472	PriceMvmLimitT1	Price		Maximum deviation of prices from settlement price at T+1.	Security Definition (MsgType = 'd')

5508	FaceValue	Amt		Face value of security.	Security Definition (MsgType = 'd')
5509	AuctionIndicator	Boolean	'Y' - Yes 'N' - No	No	Security Status (MsgType = 'f')
5510	ChgFromWAPrice	PriceOffset		Indicates change from previous day's weighted average price vs. last traded price.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market Data - Incremental Refresh (Msgtype = 'X')
5511	ChgOpenInterest	Qty		Indicates change from previous day's open interest.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market Data - Incremental Refresh (Msgtype = 'X')
5512	FirstEligibleTradeDate	LocalMktDate		First eligible trade date.	Security Definition (MsgType = 'd')
5513	LastEligibleTradeDate	LocalMktDate		Last eligible trade date.	Security Definition (MsgType = 'd')
5514	InstrumentPricePrecision	int		Number of decimals in prices.	Security Definition (MsgType = 'd')
5556	BaseSwapPx	Price		Base SWAP price.	Security Definition (MsgType = 'd')
5558	BuyBackPx	Price		Buy back price.	Security Definition (MsgType = 'd')
5559	BuyBackDate	LocakMktDate		Buy back date.	Security Definition (MsgType = 'd')
5677	Repo2Px	Price		Price of the second part of REPO.	Security Definition (MsgType = 'd')
6139	TotalNumOfTrades	int		Total number of trades.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
6143	TradeValue	Amt		Trade value.	Market Data - Snapshot/Full bRefresh

					(MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
6608	Yield	Percentage		Yield calculated at MDEntryPx (270).	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
7595	NoSharesIssued	Qty		Number of shares issued.	Security Definition (MsgType = 'd')
7910	DayCountFraction	String		Describes the method used for calculating accrued interest for a bond.	Security Definition (MsgType = 'd')
9168	OfferNbOr	int		Total number of sell orders.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
9169	BidNbOr	int		Total number of buy orders.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental Refresh (Msgtype = 'X')
9127	DeliveryType	char	'1' (Cash settled) '2' (Physical delivery)	Specifies type of delivery for futures and options.	Security Definition (MsgType = 'd')
9199	HighLimit	Price		Allowable high limit price for the trading day.	Security Definition (MsgType = 'd')
9200	LowLimit	Price		Allowable low limit price for the trading day.	Security Definition (MsgType = 'd')
9750	ChgFromSettlmnt	PriceOffset		Indicates the change from previous day's settlement price vs. last traded price.	Market Data - Snapshot/Full Refresh (MsgType = 'W'), Market data - Incremental

					Refresh (Msgtype = 'X'