



DOCUMENT TITLE

# Universal Trading Platform Market Data Feed Equities

## Mapping from EMF data feed

STATUS

Version 1.1 / 18 July 2008

# Introduction

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## Overview

This document provides a functional detailed mapping for EMF data feed users who want to migrate to the Universal Trading platform Market Data feed.

## History

V1.0 - 1<sup>st</sup> July 2008, Initial version, based on Universal Trading Platform Market Data Feed V 1.1

**V1.1** - 18 July 2008, based on Universal Trading Platform Market Data Feed V 1.0.1:  
. Addition of 2 fields in the L4 message ('TypeOfAskPrice' and 'TypeOfBidPrice')  
. Modification of the name of the field 'CValMneCpsIdx' in the A5 message

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## General overview

The aim of this document is to provide to EMF data feed users a comparison between EMF and the Universal Trading Platform Market Data Feed (UTP-MDF).

This document is only functional oriented and does not cover a comparison of the protocols (e.g. how to detect a message loss, how to get incoming data in sequence, how to replay the feed, ...) and does not explain how to process the feed (e.g. how to maintain orderbooks, ...)

Relevant documentation:

- EMF Specifications for Cash markets V1.2

# 1 - High level mapping

In EMF data feed as in UTP-MDF, data is organized in messages. Each message contains a 'Cash message type' field to indicate the nature of the content of the message. The following table provides a mapping between EMF messages and UTP-MDF messages.

Some functional messages, even if they are still described in the current EMF Specifications, are obsolete and not used any more. No mapping is provided for these messages.  
In addition, a mapping is not provided for technical messages.

EMF Cash Message type	UTP-MDF Messages
01 - Opening trade	220 - Trade creation 240 - Trade full information
02 - Trade	220 - Trade creation 221 - Trade deletion 240 - Trade full information
03 - Price update	241 - Price update
04 - 5 Best limits	To be decommissioned - Out of scope
05 - Instrument state change	505 - Instrument state change
10 - Settlement price	244 - Settlement price
13 - EURO interbank rate	513 - EURO interbank rate
16 - Group state change	516 - Group state change
23 - Mail	523 - Mail
30 - Theoretical opening price	530 - TOP ((NSC) 531 - Market imbalance
32 - Auction summary	245 - Summary
34 - Authorised limits outside the trading session	534 - Authorized out of session limits
35 - TCS Trading state changes	535 - TCS Trading state changes
36 - Trade publication	243 - Trade reporting
37 - Intermediate static thresholds	537 - Thresholds
38 - Weighted average spread	141 - WAS
39 - Session timetable	539 - Session timetable
A5 - Stock index - Composition	544 - Index composition
A6 - Display of bid and ask	540 - Display of bid and ask
B1 - Real time Index	542 - Real-time index
B2 - Stock index - Summary of the day	543 - Index summary
B4 - Market maker quote	Obsolete - Out of scope
B5 - Name of subscriber representative	Obsolete - Out of scope
B6 - Liquidity provider's best quotes	Obsolete - Out of scope
B9 - Day's summary	541 - Daily summary
H0 - Start of instrument characteristics (current day)	550 - Start of instrument characteristics
H1 - End of instrument characteristics (current day)	551 - End of instrument characteristics
H3 - Instrument characteristics (current day)	553 - Instrument characteristics (+ flat file on the Web)
I0 - TCS Trade	242 - TCS Trade
J0 - Start of instrument characteristics (next day)	550 - Start of instrument characteristics
J1 - End of instrument characteristics (next day)	551 - End of instrument characteristics
J3 - Instrument characteristics (next day)	553 - Instrument characteristics (+ flat file on the Web)
L4 - 10 Best limits	140 - Quotes
S0 - Market sheet retransmission	N/A
S3 - Market sheet update	230 - Order update
S4 - Deletions in market sheet	230 - Order update

## 2 - Message mapping

### 2.1) 01 - Opening trade

There is a 220 and a 240 outgoing message in the UTP Market Data feed when there was a 01 Cash message type in the EMF feed. It is up to customers to either use the 220 or 240 messages. **Customers should never use both 220 and 240 simultaneously for price updates.**

#	Field name	UTP-MDF Msg#	Field name
1	LAST QUANTITY TRADED (FID 0x4ADE)	Trades-220 or Trades-240	Volume Volume
2	LAST PRICE (FID 0x62DF)	Trades-220 or Trades-240	Price + PriceScaleCode Price + PriceScaleCode
3	TOTAL QUANTITY TRADED TODAY (FID 0x76E0)	Trades-240	CumulativeQuantity
4	CROSS ORDER INDICATOR (FID 0x42E7)	Trades-220 or Trades-240	TradCond3 TradCond3
5	LAST TRADE AT SAME PRICE INDICATOR (FID 0x42E8)	Trades-220 or Trades-240	TradCond2 TradCond2
6	SIGN OF PRICE VARIATION IN THE MOST RECENT TRADE FROM PREVIOUS PRICE (FID 0x42EA)	Trades-240	TickDirection
7	LAST NSC TRADE ID (FID 0x4B18)	Trades-220 or Trades-240	TradeIDNumber TradeIDNumber
8	VARIATION OF TODAY'S PRICE FROM REFERENCE PRICE (FID 0x63FB)	Trades-240	VariationLastPrice + VariationScaleCode

NB: The field "Phase" in the 220 and 240 messages takes the value 'O' when fed by a 0001 message

### 2.2) 02 - Trade

#### 2.2.1) Creation of a trade (Trade cancellation indicator=07)

There is a 220 and a 240 outgoing message in the UTP Market Data where there was a 02 Cash message type in the EMF feed, with Trade cancellation indicator=07. It is up to customers to either use the 220 or 240 messages. **Customers should never use both 220 and 240 simultaneously for price updates.**

#	Field name	UTP-MDF Msg#	Field name
1	LAST QUANTITY TRADED (FID 0x4ADE)	Trades-220 or Trades-240	Volume Volume
2	LAST PRICE (FID 0x62DF)	Trades-220	Price + PriceScaleCode

		or Trades-240	Price + PriceScaleCode
3	TOTAL QUANTITY TRADED TODAY (FID 0x76E0)	Trades-240	CumulativeQuantity
4	TODAY'S HIGHEST INSTRUMENT PRICE (FID 0x62E3)	Trades-240	HighestPrice + PriceScaleCode
5	TODAY'S LOWEST INSTRUMENT PRICE (FID 0x62E4)	Trades-240	LowestPrice + PriceScaleCode
6	TRADE CANCEL FLAG (FID 0X8515)		N/A
7	CROSS ORDER INDICATOR (FID 0x42E7)	Trades-220 or Trades-240	TradCond3 TradCond3
8	LAST TRADE AT SAME PRICE INDICATOR (FID 0x42E8)	Trades-220 or Trades-240	TradCond2 TradCond2
9	SIGN OF PRICE VARIATION IN THE MOST RECENT TRADE FROM PREVIOUS PRICE (FID 0x42EA)	Trades-240	TickDirection
10	LAST NSC TRADE ID (FID 0x4B18)	Trades-220 or Trades-240	TradeIDNumber TradeIDNumber
11	VARIATION OF TODAY'S PRICE FROM REFERENCE PRICE (FID 0x63FB)	Trades-240	VariationLastPrice + VariationScaleCode

2.2.2) Cancellation of a trade (Trade cancellation indicator=00)

There is a 221 outgoing message in the UTP Market Data feed where there was a 02 Cash message type in the EMF feed, with Trade cancellation indicator=00.

#	Field name	UTP-MDF Msg#	Field name
1	LAST QUANTITY TRADED (FID 0x4ADE)		N/A
2	LAST PRICE (FID 0x62DF)		N/A
3	TOTAL QUANTITY TRADED TODAY (FID 0x76E0)		N/A
4	TODAY'S HIGHEST INSTRUMENT PRICE (FID 0x62E3)		N/A
5	TODAY'S LOWEST INSTRUMENT PRICE (FID 0x62E4)		N/A
6	TRADE CANCEL FLAG (FID 0X8515)		
7	CROSS ORDER INDICATOR (FID 0x42E7)		N/A
8	LAST TRADE AT SAME PRICE INDICATOR (FID 0x42E8)		N/A
9	SIGN OF PRICE VARIATION IN THE MOST RECENT TRADE FROM PREVIOUS PRICE (FID 0x42EA)		N/A
10	LAST NSC TRADE ID (FID 0x4B18)	Trades-221	OriginalTradeIDNumber
11	VARIATION OF TODAY'S PRICE FROM REFERENCE PRICE (FID 0x63FB)		N/A

## 2.3) 03 - Price update

There is a 241 outgoing message in the UTP Market Data feed where there was a 03 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	LAST PRICE (FID 0x62DF)	Trades-241	Price + ScaleCode
2	TODAY'S HIGHEST INSTRUMENT PRICE (FID 0x62E3)	Trades-241	HighestPrice + ScaleCode
3	TODAY'S LOWEST INSTRUMENT PRICE (FID 0x62E4)	Trades-241	LowestPrice + ScaleCode
4	TYPE OF LAST PRICE (FID 0x489C)	Trades-241	TypeOfPrice
5	VARIATION OF TODAY'S PRICE FROM REFERENCE PRICE (FID 0x63FB)	Trades-241	VariationLastPrice + VariationScaleCode

## 2.4) 04 - 5 Best limits

This message type is decommissioned in July 2008, so out of scope. Please see message type L4.

## 2.5) 05 - Instrument state change

There is a 505 outgoing message in the UTP Market Data feed where there was a 05 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	INSTRUMENT TRADING STATE INDICATOR (FID 0x42D3)	Mkt info-505	InstrumentTradingStatus
2	INDICATOR GIVING ORIGIN OF INSTRUMENT RESERVATION (FID 0x42D4)	Mkt info-505	OriginReservation
3	START DATE FOR SUSPENSION (FID 0x848f)	Mkt info-505	StartDateHalting
4	START TIME FOR SUSPENSION (FID 0x5AD6)	Mkt info-505	StartTimeHalting
5	CODE INDICATING THE STATE OF THE INSTRUMENT IN NSC (FID 0x86D7)	Mkt info-505	InstrumentState
6	MOST RECENT ACTION CODE FOR INSTRUMENT STATE CHANGE (FID 0x42D8)	Mkt info-505	ActionAffectingState
7	PROGRAMMED OPENING TIME (FID 0x5AD9)	Mkt info-505	ProgOpeningTime
8	INSTRUMENT STATE CODE IN TCS SYSTEM (FID 0x42DA)	Mkt info-505	InstrumentStateTCS
9	PERIOD SIDE (FID 0x43C4)	Mkt info-505	PeriodSize

## 2.7) 10 - Settlement price

There is a 244 outgoing message in the UTP Market Data feed where there was a 10 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	SETTLEMENT PRICE (FID 0x62F5)	Trades-244	Price + ScaleCode

## 2.8) 13 - Euro interbank rate

There is a 513 outgoing message in the UTP Market Data feed where there was a 13 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	EURO INTERBANK RATE IN ANOTHER CURRENCY (FID 0x62EB)	Mkt info-513	EuroInterbRate + RateScaleCode
2	TYPE OF RATE FOR CURRENCY RATE UPDATE (FID 0x42EC)	Mkt info-513	TypeOfRate
3	INDICATOR FOR CHANGE IN EURO INTERBANK RATE (FID 0x42ED)	Mkt info-513	TickDirection
4	INDICATOR FOR CHANGE IN EURO INTERBANK RATE (FID 0x42ED)	Mkt info-513	ChangeRate + ChangeScaleCode
5	ISO3A CODE FOR EURO INTERBANK RATE CURRENCY OF EXPRESSION (FID 0x86EF)	Mkt info-513	Currency

## 2.9) 16 - Group state change

There is a 516 outgoing message in the UTP Market Data feed where there was a 16 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	STOCK GROUP CODE (FID 0x87AA)	Mkt info-516	InstrumentGroupCode
2	STOCK GROUP STATUS CODE (FID 0x43B5)	Mkt info-516	InstrumentGroupState

## 2.10) 23 - Mail

There is a 523 outgoing message in the UTP Market Data feed where there was a 23 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
	<b>Mail header</b>		
1	INSTRUMENT GROUP CODE (FID 0x85AF)	Mkt info-523	InstrumentGroupCode
2	PRIORITY INDICATOR (FID 0x43B7)	Mkt info-523	PriorityIndicator
3	NATURE OF MESSAGE (FID 0x43B8)	Mkt info-523	TypeOfMessage
4	ADDRESS TYPE (FID 0x8782)	Mkt info-523	AddressType
5	EMAIL MESSAGE NUMBER (FID 0x47D2)	Mkt info-523	EMailMsgNumber
6	NUMBER OF MESSAGE EMAIL (FID 0x47D3)	Mkt info-523	SequenceNumber
7	SEQUENCE NUMBER EMAIL (FID 0x47D4)	Mkt info-523	NumberOfMessage
	Mail message		
8	EMAIL MESSAGE (FID 0x8783)	Mkt info-523	Title+Text

## 2.11) 30 - Theoretical opening price

There is a 530 outgoing message in the UTP Market Data feed where there was a 30 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	MOST RECENT THEORETICAL OPENING PRICE (FID 0x62DB)	Mkt info-530	TOPrice + PriceScaleCode
2	VARIATION OF TODAY'S PRICE FROM REFERENCE PRICE (FID 0x63FB)	Mkt info-530	Variation + VariationScaleCode

## 2.12) 32 - Opening summary

There is a 245 outgoing message in the UTP Market Data feed where there was a 32 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	TODAY'S FIRST INSTRUMENT PRICE (FID 0x62E5)	Trades-245	FirstPrice + PriceScaleCode
2	LAST PRICE (FID 0x62DF)	Trades-245	LastPrice + PriceScaleCode
3	TODAY'S HIGHEST INSTRUMENT PRICE (FID 0x62E3)	Trades-245	HighestPrice + PriceScaleCode
4	TODAY'S LOWEST INSTRUMENT PRICE (FID 0x62E4)	Trades-245	LowestPrice + PriceScaleCode
5	TYPE OF LAST PRICE (FID 0x489C)	Trades-245	TypeOfLastPrice
6	TOTAL QUANTITY TRADED TODAY (FID 0x76E0)	Trades-245	CumulativeQuantity
9	SIGN OF PRICE VARIATION IN THE MOST RECENT TRADE FROM PREVIOUS PRICE (FID 0x62E6)	Trades-245	TickDirection

	0x42EA)		
10	INDICATOR OF VALUATION PRICE FOR FIRST PRICE (FID 0x42E6)	Trades-245	InstrumentValuationPrice
11	VARIATION OF TODAY'S PRICE FROM REFERENCE PRICE (FID 0x63FB)	Trades-245	Variation + VariationScaleCode

## 2.13) 34 - Authorised limits outside the trading session

There is a 534 outgoing message in the UTP Market Data feed where there was a 34 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	MINIMUM AUTHORISED PRICE FOR ORDINARY TRADES OUTSIDE THE TRADING SESSION (FID 0x62FA)	Mkt info-534	MinPriceTrades + TradeScaleCode
2	MAXIMUM AUTHORISED PRICE FOR ORDINARY TRADES OUTSIDE THE TRADING SESSION (FID 0x62FB)	Mkt info-534	MaxPriceTrades + TradeScaleCode
3	MINIMUM AUTHORISED PRICE FOR BLOCK TRADES OUTSIDE THE TRADING SESSION (FID 0x62FC)	Mkt info-534	MinPriceBlockTrades + BlockTradeScaleCode
4	MAXIMUM AUTHORISED PRICE FOR BLOCK TRADES OUTSIDE THE TRADING SESSION (FID 0x62FD)	Mkt info-534	MaxPriceBlockTrades + BlockTradeScaleCode

## 2.14) 35 - TCS Trading state changes

There is a 535 outgoing message in the UTP Market Data feed where there was a 35 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	INSTRUMENT GROUP CODE (FID 0x85AF)	Mkt info-535	InstrumentGroupCode
2	TCS CHANGE TRADING DAY INDICATOR (FID 0x412E)	Mkt info-535	ChangeTradingCycle

## 2.15) 37 - Intermediate static thresholds

There is a 537 outgoing message in the UTP Market Data feed where there was a 37 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	UPPER STATIC THRESHOLD OF FREEZING (FID 0x62FE)	Mkt info-537	HighThresholds + HighScaleCode
2	LOWER STATIC THRESHOLD OF FREEZING (FID 0x62FF)	Mkt info-537	LowThresholds + LowScaleCode

## 2.16) 38 - Weighted average price (WAS)

There is a 141 outgoing message in the UTP Market Data feed where there was a 38 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	BUYING PRICE OF THE WEIGHTED AVERAGE SPREAD (FID 0x62F2)	Quotes-141	BuyingPrice + ScaleCode
2	SELLING PRICE OF THE WEIGHTED AVERAGE SPREAD (FID 0x62F3)	Quotes-141	SellingPrice + ScaleCode
3	NORMAL MONEY AMOUNT OF BLOCK FOR CALCULATION OF THE WAS (FID 0x66F4)	Quotes-141	MoneyAmount + MoneyScaleCode

## 2.17) 39 - Session timetable

There is a 539 outgoing message in the UTP Market Data feed where there was a 39 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	INSTRUMENT GROUP CODE (FID 0x85AF)	Mkt info-539	InstrumentGroupCode
2	TIME OF PRE-OPENING 1 (FID 0x5BAB)	Mkt info-539	TimePreOpening1
3	TIME OF OPENING 1 (FID 0x5BAC)	Mkt info-539	TimeOpening1
4	TIME OF CLOSING 1 (FID 0x5BAD)	Mkt info-539	TimeClosing1
5	TIME OF PRE-OPENING 2 (FID 0x5BAE)	Mkt info-539	TimePreOpening2
6	TIME OF OPENING 2 (FID 0x5BAF)	Mkt info-539	TimeOpening2
7	TIME OF CLOSING 2 (FID 0x5BB0)	Mkt info-539	TimeClosing2
8	TIME OF PRE-OPENING 3 (FID 0x5BB1)	Mkt info-539	TimePreOpening3
9	TIME OF OPENING 3 (FID 0x5BB2)	Mkt info-539	TimeOpening3
10	TIME OF CLOSING 3 (FID 0x5BB3)	Mkt info-539	TimeClosing3

11	TIME OF END-OF-DAY CONSOLATION (FID 0x5BB4)	Mkt info-539	EodTime
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## 2.29) A5 - Stock index - Composition of the index

There is an A5 Cash message type per index. The WEP message contains only one component. So, there are several outgoing 544 message where there was an A5 message in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	LIST OF SECURITIES BELONGING TO THE INDEX (FID 0x82CD) (1)		
	Euronext code of index component	Indices-544	InstrumentIDOfComponent
	Mnemonic code of index component	Indices-544	<b>Mnemo</b>
	Security's percentage in previous day's reference capitalization of the index	Indices-544	InstrumentWeight + PriceScaleCode
	Capitalization adjustment coefficient of an security in an index	Indices-544	InstrumentFactor + PriceScaleCode
2	LAST FOR INDEX (FID 0x43B9)		N/A
3	TOTAL NUMBER OF SECURITIES IN THE INDEX (FID 0x46CE)	Indices-544	NumberOfComponents
4	PREVIOUS DAY'S REFERENCE CLOSING INDEX (FID 0x62CF)	Indices-544	PreviousClose + LevelScaleCode
5	FREQUENCY OF INDEX CALCULATION (FID 0x42D0)	Indices-544	IndexFrequency

(1) The list contains several components

## 2.30) A6 - Display of bid and ask

There is a 540 outgoing message in the UTP Market Data feed where there was a A6 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	TOP BID PRICE (FID 0x6199)	Mkt info-540	Price + PriceScaleCode and Side=2
2	TOP ASK PRICE (FID 0x619A)	Mkt info-540	Price + PriceScaleCode and Side=3

## 2.31) B1 - Index

There is up to 3 542 outgoing message in the UTP Market Data feed where there was a B1 Cash message type in the EMF feed, depending if the net and gross profitability levels are provided.

#	Field name	UTP-MDF Msg#	Field name
1	INDEX LEVEL INDICATOR (FID 0x43BB)	Indices-542	IndexLevelCode
2	TODAY'S HIGHEST INDEX LEVEL TIME (FID 0x5BED)		N/A
3	TODAY'S LOWEST INDEX LEVEL TIME (FID 0x5BEE)		N/A
4	NUMBER OF TRADED INSTRUMENT (FID 0x457A)	Indices-542	NumOfSecuritiesQuoted
5	PERCENTAGE OF CAPITALIZATION IN INDEX (FID 0x6326)	Indices-542	PercentageOfCapitalization + PercentageScaleCode
6	VARIATION FORERUNNER (FID 0x63EC)	Indices-542	ForerunnerLevel + LevelScaleCode
7	VARIATION INDEX FROM PREVIOUS DAY (FID 0x63ED)	Indices-542	VariationFromPreviousDaysPrice + VariationScaleCode
8	VARIATION INDEX FROM LIQUID DAY (FID 0x63EE)		N/A
9	VARIATION INDEX FROM PREVIOUS YEAR (FID 0x63EF)		N/A
10	NET PROFITABILITY INDEX (FID 0x63F0)	Indices-542	IndexLevel + LevelScaleCode (TypeOfLevel=2)
11	GLOBAL PROFITABILITY INDEX (FID 0x63F1)	Indices-542	IndexLevel + LevelScaleCode (TypeOfLevel=3)
12	NUMBER OF DECLINING INSTRUMENTS IN INDEX (FID 0x4576)		N/A
13	NUMBER OF RISING INSTRUMENTS IN INDEX (FID 0x4578)		N/A
14	NUMBER OF UNCHANGED INSTRUMENTS IN INDEX (FID 0x457B)		N/A
15	NUMBER OF UNTRADED INSTRUMENTS IN INDEX (FID 0x457C)		N/A
16	NUMBER OF RESERVED INSTRUMENTS IN INDEX (FID 0x4577)		N/A
17	NUMBER OF SUSPENDED INSTRUMENTS IN INDEX (FID 0x4579)		N/A
18	TOTAL NUMBER OF SECURITIES IN THE INDEX (FID 0x46CE)		N/A
19	VARIATION FOR INSTRUMENT IN INDEX (FID 0x6329)		N/A
20	AVERAGE PERCENTAGE OF VARIATION FOR DECLINING INSTRUMENTS IN INDEX (FID 0x632A)		N/A
21	AVERAGE PERCENTAGE OF VARIATION FOR RISING INSTRUMENTS IN INDEX (FID 0x632B)		N/A

22	PREVIOUS INDICATOR FLAG (FID 0x43C1)		N/A
23	INDEX (FID 0x63E9)	Indices-542	IndexLevel + LevelScaleCode (TypeOfLevel=1)
24	TODAY'S HIGHEST INDEX LEVEL (FID 0x63A6)	Indices-542	SessionHigh + LevelScaleCode
25	TODAY'S LOWEST INDEX LEVEL (FID 0x63A8)	Indices-542	SessionLow + LevelScaleCode

## 2.32) B2 - Stock index - Summary of the day

There is up to 3 543 outgoing message in the UTP Market Data feed where there was a B2 Cash message type in the EMF feed, depending if the net and gross profitability levels are provided.

#	Field name	UTP-MDF Msg#	Field name
1	TODAY'S REFERENCE CLOSING INDEX LEVEL (FID 0x6396)	Indices-543	ClosingReferenceLevel + LevelScaleCode (TypeOfLevel=1)
	TODAY'S REFERENCE CLOSING INDEX LEVEL TIME (FID 0x5BE7)	Indices-543	ClosingReferenceTime
2	TODAY'S REFERENCE PRELIMINARY OPENING INDEX LEVEL (FID 0x6328)	Indices-543	PreliminaryOpeningLevel + LevelScaleCode
	TODAY'S REFERENCE PRELIMINARY OPENING INDEX LEVEL TIME (FID 0x585C)	Indices-543	PreliminaryOpeningTime
3	TODAY'S FIRST REAL-TIME INDEX LEVEL (FID 0x638B)	Indices-543	FirstLevel + LevelScaleCode
	TODAY'S FIRST REAL-TIME INDEX LEVEL TIME (FID 0x5BE6)	Indices-543	FirstTime
4	TODAY'S HIGHEST INDEX LEVEL (FID 0x63A6)	Indices-543	HighLevel + LevelScaleCode
	TODAY'S HIGHEST INDEX LEVEL TIME (FID 0x5BED)	Indices-543	HighTime
	VARIATION OF TODAY'S HIGHEST INDEX LEVEL FROM PREVIOUS DAY'S CLOSING (FID 0x63A7)		N/A
5	TODAY'S LOWEST INDEX LEVEL (FID 0x63A8)	Indices-543	LowLevel + LevelScaleCode
	TODAY'S LOWEST INDEX LEVEL TIME (FID 0x5BEE)	Indices-543	LowTime
	VARIATION OF TODAY'S LOWEST INDEX LEVEL FROM PREVIOUS DAY'S CLOSING (FID 0x63A9)		N/A
6	TODAY'S REFERENCE OPENING INDEX LEVEL (FID 0x6327)	Indices-543	OpeningReferenceLevel + LevelScaleCode
	TODAY'S REFERENCE OPENING INDEX LEVEL TIME (FID 0x585B)	Indices-543	OpeningReferenceTime
7	TODAY'S REFERENCE DAILY SETTLEMENT INDEX LEVEL (FID 0x639C)	Indices-543	ClearingLevel + LevelScaleCode
	TODAY'S REFERENCE DAILY SETTLEMENT	Indices-543	ClearingTime

	INDEX LEVEL TIME (FID 0x5BE8)		
8	TODAY'S REFERENCE AT-EXPIRATION SETTLEMENT INDEX LEVEL (FID 0x639E)	Indices-543	LiquidationLevel + LevelScaleCode
	TODAY'S REFERENCE AT-EXPIRATION SETTLEMENT INDEX LEVEL TIME (FID 0x5BE9)	Indices-543	LiquidationTime
10	VARIATION OF TODAY'S REFERENCE CLOSING INDEX LEVEL FROM PREVIOUS DAY (FID 0x6399)	Indices-543	PercentVariationPrevClos + VarScaleCode
11	TOTAL NET DIVIDENDS DETACHED TODAY FOR ALL INSTRUMENTS IN INDEX (FID 0x6789)		N/A
12	TOTAL GROSS DIVIDENDS DETACHED TODAY FOR ALL INSTRUMENTS IN INDEX (FID 0x678A)		N/A
13	PREVIOUS DAY'S REFERENCE CAPITALISATION FOR THE INDEX (FID 0X671F)		N/A
14	ADJUSTMENT COEFFICIENT FOR THE BASE CAPITALISATION OF AN INDEX (FID 0x65BB)		N/A
15	TODAY'S REFERENCE CLOSING INDEX LEVEL (NET RETURN) (FID 0x6397)	Indices-543	ClosingReferenceLevel + LevelScaleCode (TypeOfLevel=2)
16	TODAY'S REFERENCE CLOSING INDEX LEVEL (GROSS RETURN) (FID 0x6398)	Indices-543	ClosingReferenceLevel + LevelScaleCode (TypeOfLevel=3)

### 2.33) B4 - Market maker quote

This message type is out of scope

### 2.34) B5 - Subscriber's representatives

This message type is out of scope

### 2.35) B6 - Liquidity providers best quotes (Yellow strip)

This message type is out of scope

### 2.36) B9 - Day's summary of prices and amount of capital on TCS & NSC

This message type is out of scope

## 2.22) IO - TCS Trade

There is a 242 outgoing message in the UTP Market Data feed where there was a IO Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	LAST TCS TRADE ID (FID 0X8710)	Trades-242	TCSTradeID
2	TCS TRADE CANCELLATION INDICATOR (FID 0x4114)	Trades-242	TradeCancelIndicator
3	LAST TCS QUANTITY TRADED (FID 0x4B11)	Trades-242	Volume
4	LAST TCS TRADE PRICE (FID 0x6312)	Trades-242	Price
5	TRADING VENUE (FID 0x8791)	Trades-242	TradingVenue
6	TCS DATE ORIGINAL DECLARATIONS WERE MATCHED (FID 0x8490)	Trades-242	DateOriginalDecl
7	TCS TIME ORIGINAL DECLARATIONS WERE MATCHED (FID 0x5B14)	Trades-242	TimeOriginalDecl
8	TCS EFFECTIVE DATE OF TRADE INDICATOR (FID 0x4315)	Trades-242	EffectiveDateIndicator
9	START TIME FOR VWAP COMPUTATION PERIOD (FID 0x5BF1)	Trades-242	StartTimeVwap
10	END TIME FOR VWAP COMPUTATION PERIOD (FID 0x5BF2)	Trades-242	EndTimeVwap
11	TCS BLOCK-TRADE CODE (FID 0x4316)	Trades-242	BlockTradeCode
12	TCS TRADE TYPE (FID 0x4317)	Trades-242	TradeType
13	FINANCIAL MARKET CODE FOR THE SECURITY (FID 0x4318)	Trades-242	FinancialMarketCode
14	TCS TRADE MESSAGE SUB-TYPE CODE (FID 0x4319)	Trades-242	TCSSubtypeCode
15	TCS FIRST (FID 0x631A)	Trades-242	FirstPrice + PriceScaleCode
16	TCS LAST (FID 0x631B)	Trades-242	LastPrice + PriceScaleCode
17	TCS HIGH (FID 0x631C)	Trades-242	HighestPrice + PriceScaleCode
18	TCS LOW (FID 0x631D)	Trades-242	LowestPrice + PriceScaleCode
19	CURRENT DAY'S TCS TRADE TURNOVER (FID 0x67BC)	Trades-242	CumulativeCapital
20	CURRENT DAY'S TCS CUMULATIVE VOLUME (FID 0x770C)	Trades-242	CumulativeNumberSecurities

## 2.23) H0 - Start of instrument reference data flow (Morning)

This message is out of scope

## 2.24) H1 - End of instrument reference data flow (Morning)

This message is out of scope

## 2.25) H3 - Instrument characteristics for the current trading date (Morning)

There is a 553 outgoing message in the UTP Market Data feed where there was a H3 Cash message type in the EMF feed. The field 'PeriodIndicator' takes the value 'M' when the 553 message is sent in the morning (effective for the current trading day).

#	Field name	UTP-MDF Msg#	Field name
1	INSTRUMENT LONG NAME (FID 0x845D)	Mkt info-553	InstrumentName
2	LAST PRICE FOR THE PREVIOUS TRADED DAY (ADJUSTED) (FID 0x61DE)	Mkt info-553	LastAdjPrice + LastAdjPriceScaleCode
3	TYPE OF MARKET ADMISSION (FID 0x43B6)	Mkt info-553	TypeOfMarketAdmission
4	ISSUING COUNTRY CODE (FID 0x85A8)	Mkt info-553	IssuingCountryCode
5	TRADING CURRENCY (FID 0x85A9)	Mkt info-553	TradingCurrency
6	PRICE UNIT TYPE (FID 0x41AA)	Mkt info-553	TypeOfUnitExp
7	BROAD INSTRUMENT CATEGORY (FID 0x41AB)	Mkt info-553	InstrumentCategory
8	OFFICIAL QUOTATION LIST CLASSIFICATION (FID 0x85AD)	Mkt info-553	OfficialQuotationList + SectionNumber OfficialQuotationList + HeadingNumber
9	STOCK EXCHANGE CODE (FID 0x85AE)	Mkt info-553	Stock Exchange Code
10	INSTRUMENT GROUP CODE (FID 0x85AF)	Mkt info-553	InstrumentGroupCode
11	PREVIOUS TRADING DAY VOLUME IN CAPITAL (FID 0x65E5)	Mkt info-553	+ PrevDayCapitalTradedScaleCode
12	ISIN CODE (FID 0x85A4)	Mkt info-553	InstrumentCode
13	DERIVATIVE INSTRUMENTS ASSOCIATED (FID 0x41B3)	Mkt info-553	TypeOfDerivatives
14	IVAL INSTRUMENT TYPE (FID 0x45B4)	Mkt info-553	TypeOfInstrument
15	TAX DEDUCTIBILITY CODE (FID 0x41B7)	Mkt info-553	TaxCode
16	DATE INSTRUMENT LAST TRADED (FID 0x848B)	Mkt info-553	DateOfLastTrade
17	ISIN CODE OF UNDERLYING SECURITY FOR LENDING MARKET (FID 0x85B9)	Mkt info-553	UnderlyingRepoISINCode
18	AMOUNT PAR VALUE (FID 0x48A1)	Mkt info-553	NomMktPrice + NomMkdtPriceScaleCode
19	NUMBER OF INSTRUMENT TRADED ON PREVIOUS DAY (FID 0x75BC)	Mkt info-553	PrevVolumeTraded
20	INDICATOR OF UNDERLYING SECURITY ON LENDING MARKET (FID 0x41BD)	Mkt info-553	RepoIndicator
21	EXPIRY DATE OF LENDING SECURITY (FID 0x848D)	Mkt info-553	RepoExpiryDate
22	MINIMUM TRADEABLE QUANTITY (FID 0x65BF)	Mkt info-553	LotSize + LotSizeScaleCode

23	FIRST POSSIBLE SETTLEMENT DATE (FID 0x848E)	Mkt info-553	FirstSettlementDate
24	ICB CLASSIFICATION (FID 0x8560)	Mkt info-553	ICB
25	BIC CODE OF DEPOSITORY OR SETTLEMENT SYSTEM (FID 0x85C4)	Mkt info-553	BICDepository
26	MIC (MARKET IDENTIFICATION CODE) (FID 0x85C5)	Mkt info-553	MIC
27	UNDERLYING ISIN CODE (FID 0x86CB)	Mkt info-553	UnderlyingWISINCode
28	DEPOSITORY OR SETTLEMENT SYS ID LIST (FID 0x83EF)	Mkt info-553	DepositoryList
29	DEPOSITORY OR SETTLEMENT SYSTEM (FID 0x85C0)	Mkt info-553	MainDepository
30	TYPE OF CORPORATE EVENT (FID 0x8786)	Mkt info-553	TypeOfCorporateEvent
31	UTC HOUR (FID 0x8720)	Mkt info-553	TimeLagEuronextUTC
32	UTC HOUR 2 (FID 0x8721)	Mkt info-553	TimeLagMiFIDRegUTC
33	CFI CODE (FID 0x871F)	Mkt info-553	CFI
34	QUANTITY NOTATION (FID 0x8722)	Mkt info-553	QuantityNotation
35	NUMBER OF SHARES ISSUED (FID 0x67BE)	Mkt info-553	NumberInstrumentCirc
36	INDEX OF THE SET OF VARIABLE PRICE TICK (FID 0x8790)	Mkt info-553	IndexSetOfVarPriceTick
37	AMOUNT OF THE FIXED PRICE TICK (FID 0x6336)	Mkt info-553	FixPriceTick + FixPriceTickScaleCode
38	MIC LIST (FID 0x839D)	Mkt info-553	MICList

## 2.26) J0 - Start of instrument reference data flow (Evening)

This message is out of scope

## 2.27) J1 - End of instrument reference data flow (Evening)

This message is out of scope

## 2.28) J3 - Instrument characteristics for the current trading date (Evening)

There is a 553 outgoing message in the UTP Market Data feed where there was a J3 Cash message type in the EMF feed. As the 553 message is also used in case of reception of a J3 message, the field 'PeriodIndicator' takes the value 'E' when the 553 message is sent in the evening (effective for the next trading day).

#	Field name	UTP-MDF Msg#	Field name
1	INSTRUMENT LONG NAME (FID 0x845D)	Mkt info-553	InstrumentName
2	TYPE OF MARKET ADMISSION (FID 0x43B6)	Mkt info-553	TypeOfMarketAdmission

3	ISSUING COUNTRY CODE (FID 0x85A8)	Mkt info-553	IssuingCountryCode
4	TRADING CURRENCY (FID 0x85A9)	Mkt info-553	TradingCurrency
5	PRICE UNIT TYPE (FID 0x41AA)	Mkt info-553	TypeOfUnitExp
6	BROAD INSTRUMENT CATEGORY (FID 0x41AB)	Mkt info-553	InstrumentCategory
7	OFFICIAL QUOTATION LIST CLASSIFICATION (FID 0x85AD)	Mkt info-553	OfficialQuotationList + SectionNumber OfficialQuotationList + HeadingNumber
8	STOCK EXCHANGE CODE (FID 0x85AE)	Mkt info-553	Stock Exchange Code
9	INSTRUMENT GROUP CODE (FID 0x85AF)	Mkt info-553	InstrumentGroupCode
10	ISIN CODE (FID 0x85A4)	Mkt info-553	InstrumentCode
11	DERIVATIVE INSTRUMENTS ASSOCIATED (FID 0x41B3)	Mkt info-553	TypeOfDerivatives
12	IVAL INSTRUMENT TYPE (FID 0x45B4)	Mkt info-553	TypeOfInstrument
13	TAX DEDUCTIBILITY CODE (FID 0x41B7)	Mkt info-553	TaxCode
14	ISIN CODE OF UNDERLYING SECURITY FOR LENDING MARKET (FID 0x85B9)	Mkt info-553	UnderlyingRepoISINCode
15	AMOUNT PAR VALUE (FID 0X48A1)	Mkt info-553	NomMktPrice + NomMkdtPriceScaleCode
16	INDICATOR OF UNDERLYING SECURITY ON LENDING MARKET (FID 0x41BD)	Mkt info-553	RepoIndicator
17	EXPIRY DATE OF LENDING SECURITY (FID 0x848D)	Mkt info-553	RepoExpiryDate
18	MINIMUM TRADEABLE QUANTITY (FID 0x65BF)	Mkt info-553	LotSize + LotSizeScaleCode
19	FIRST POSSIBLE SETTLEMENT DATE (FID 0x848E)	Mkt info-553	FirstSettlementDate
20	ICB CLASSIFICATION (FID 0x8560)	Mkt info-553	ICB
21	BIC CODE OF DEPOSITARY OR SETTLEMENT SYSTEM (FID 0x85C4)	Mkt info-553	BICDepositary
22	MIC (MARKET IDENTIFICATION CODE) (FID 0x85C5)	Mkt info-553	MIC
23	UNDERLYING ISIN CODE (FID 0x86CB)	Mkt info-553	UnderlyingWISINCode
24	DEPOSITARY OR SETTLEMENT SYS ID LIST (FID 0x83EF)	Mkt info-553	DepositaryList
25	DEPOSITARY OR SETTLEMENT SYSTEM (FID 0x85C0)	Mkt info-553	MainDepositary
26	TYPE OF CORPORATE EVENT (FID 0x8786)	Mkt info-553	TypeOfCorporateEvent
27	UTC HOUR (FID 0x8720)	Mkt info-553	TimeLagEuronextUTC
28	UTC HOUR 2 (FID 0x8721)	Mkt info-553	TimeLagMiFIDRegUTC
29	CFI CODE (FID 0x871F)	Mkt info-553	CFI
30	QUANTITY NOTATION (FID 0x8722)	Mkt info-553	QuantityNotation
31	NUMBER OF SHARES ISSUED (FID 0x67BE)	Mkt info-553	NumberInstrumentCirc
32	INDEX OF THE SET OF VARIABLE PRICE TICK (FID 0x8790)	Mkt info-553	IndexSetOfVarPriceTick
33	AMOUNT OF THE FIXED PRICE TICK (FID	Mkt info-553	FixPriceTick + FixPriceTickScaleCode

	0x6336)		
34	MIC LIST (FID 0x839D)	Mkt info-553	MICList

## 2.37) L4 - 10 Best limits

The L4 Cash message type of the EMF feed contains up to 11 limits. The 140 message of the UTP Market Data contains only one limit. So, the customer can expect up to 11 times one 140 outgoing message where there was one single L4 message Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	NSC Depth BID LEVEL 1 (FID 0x83D5)		
	Price	Quotes-140	BidPrice + ScaleCode
	No of order	Quotes-140	NumberBidOrders
	Volume	Quotes-140	BidSize
	Price type	<b>Quote-140</b>	<b>TypeOfBidPrice</b>
	LP indicator	Quotes-140	QuoteCondition
2	NSC Depth ASK LEVEL 1 (FID 0x83D6)		
	Price	Quotes-140	AskPrice + ScaleCode
	No of order	Quotes-140	NumberAskOrders
	Volume	Quotes-140	AskSize
	Price type	<b>Quote-140</b>	<b>TypeOfAskPrice</b>
	LP presence indicator at the sell side 1	Quotes-140	QuoteCondition
3	NSC DEPTH BID LEVEL 2 (FID 0x83D7) to NSC DEPTH BID LEVEL 11 (FID 0x83DF)		Same as NSC Depth BID LEVEL 1
4	NSC DEPTH ASK LEVEL 2 (FID 0x83D8) to NSC DEPTH ASK LEVEL 11 (FID 0x83E0)		Same as NSC Depth ASK LEVEL 1

## 2.38) S0 - Market sheet retransmission

N/A

## 2.39) S3 - Market sheet update

There is a 230 outgoing message in the UTP Market Data feed where there was a S3 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	MARKET SHEET ACTION CODE (FID 0x40FF)	OrderBook-230	ActionType
2	SIDE OF THE ORDER (FID 0x4100)	OrderBook-230	Side
3	ORIGINAL ORDER PRICE (FID 0x6101)	OrderBook-230	Price + PriceScaleCode
4	ORDER DISPLAYED QUANTITY (FID 0x4902)	OrderBook-230	Volume
5	ORDER ID (FID 0x7559) Date of the order		OrderDate

	Sequential order number		OrderID
6	TYPE OF PRICE ENTERED (FID 0x431D)	OrderBook-230	OrderType
7	ORDER PRIORITY TIMESTAMP (FID 0x5186)	OrderBook-230	OrderPriorityDate + OrderPriorityTime + OrderPriorityMicroSecs

## 2.40) S4 - Deletions in market sheet

There is a 230 outgoing message in the UTP Market Data feed where there was a S4 Cash message type in the EMF feed.

#	Field name	UTP-MDF Msg#	Field name
1	TYPE OF DELETION (FID 0x4107)	OrderBook-230	ActionType
2	ORDER ID (FID 0x7559) Order entry date Order sequence number	OrderBook-230	OrderDate OrderID
3	SIDE OF THE ORDER (FID 0x4100)	OrderBook-230	Side