

# Description Of Span<sup>®</sup> Risk Parameter File

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The SPAN<sup>®</sup> 1<sup>1</sup> Risk Parameter file is downloaded from a source (ftp-server or similar).

The Nasdaq Commodities end of day SPAN<sup>®</sup> file is generated and distributed in the evening of each day being a trading day in any of Nasdaq Commodities' market.

Nasdaq Commodities has introduced the Intra-day SPAN<sup>®</sup> files from March 17th, 2014. For details regarding the Intra-day SPAN please contact Clearing Risk [clearing.risk@nasdaq.com](mailto:clearing.risk@nasdaq.com)

The FTP Location Site: <ftp://ftp.nordic.nasdaqomxtrader.com>

The SPAN<sup>®</sup> file has the following structure and location

- Production File Structure: /Commodities/PROD/Common/<date>
- Location: <ftp://ftp.nordic.nasdaqomxtrader.com/Commodities/PROD/Common/>
- Test Folder Structure: /Commodities/<TEST>/Common/<date> Example from External Test System 4
- Location: <ftp://ftp.nordic.nasdaqomxtrader.com/Commodities/EXT4/Common/>

The SPAN<sup>®</sup> files have the following name standard

- Example EOD SPAN<sup>®</sup>: NSPANPAR\_-001\_\_-SE-\_\_\_\_-140407-001.txt
- Example Intra-Day SPAN<sup>®</sup>: NSPANI\_\_\_-001\_\_-SE-\_\_\_\_-140407-015.txt

A number of logical record types have been defined. Logical records longer than 80 characters must be split into more than one physical record.

All physical records start with the following three fields, which constitute a Record Header:

Record type	2 characters	
Record number	2 characters	Physical record number in the logical record
Number of logical characters	2 characters	Number of logical characters on this row, including those in the Record Header(Maximum 80 characters in one physical record)

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<sup>1</sup> SPAN is a registered trademark of Chicago Mercantile Exchange Inc., used herein under license. Chicago Mercantile Exchange Inc. assumes no liability in connection with the use of SPAN by any person or entity.

The following record types have been defined:

'00' File header  
 '01' Risk group  
 '02' Contract  
 '03' Risk matrix  
 '04' Correlation  
 '05' Time spread parameters  
 '06' Currency conversion      '09' RNP definitions (Risk Neutral Positions)  
 '10' RNP elements (Risk Neutral Positions)  
 '11' Inter Commodity Spread Credits  
 '12' Delivery Calendar Data  
 '13' Non Delivery Dates  
 '14' Time Periods  
 '99' File trailer

Physical records inside a logical record are consecutive, in a rising sequence of record numbers.

All alphanumeric fields (A) are left justified, and filled with blanks.

All numeric fields (N) are right justified, and filled with zeros.

All numeric fields preceded by a plus or minus sign (NF) are right justified, but the plus or minus is placed at the extreme left.

## Record types:

### 00 - File header

Field	Offset	Length	Format	Comment
Parameter Set Date	1	8	N	Production date to which parameter set applies; recorded <yyyymmdd>. 19990820 represent 20 August 1999
Production Date	9	8	N	Date when file was produced. Example: 19990821 represents 21 August 1999
Production time	17	6	N	Production date to which parameter set applies; recorded <yyyymmdd>. 19990820 represent 20 August 1999
Extreme multiplier	23	5	N	Extreme scenarios' position in relation to the scanning range. Example: 00200 for extreme scenarios equal to closing price $\pm 2 \times$ scanning range size. Percent without decimals.
Extreme value percentage	28	5	N	Degree of coverage for extreme scenarios. Example: 03500 represents 35%. Percent with 2 decimals.
Cash margin futures	33	5	N	Not used
First date cash margin	38	8	N	Not used
Last date cash margin	46	8	N	Not used
Cover Margin	54	5	N	Not used
Currency	59	4	A	'Currency used for margin calculation'. EUR - not relevant (depends on member Margin Currency)
Scanning range SRP	63	5	N	Not used
Holiday Factor	68	5	N	Not used
Interest rate Financing Margin	73	5	N	Interest rate used for RNP financial margin calculations. Fetched from price parameter field Risk free interest rate applicable for an RNP.  Example: 00600 for 6%.

Field	Offset	Length	Format	Comment
File Type	78	1	A	= E for end of day files I for intraday files
Run Number	79	3	N	= Sequence number/margin run number for intraday files = 0 for end of day files

## 01 - Risk Group

Field	Offset	Length	Format	Comment
Group identity	1	6	A	Unique identification for the group. For ex SYDE, ARSY, NOPE
Offsetting code	7	2	A	Code for offsetting of time periods in the group: 0 : No offsetting between time intervals 1 : Offsetting used between different time intervals Fetched from field Time spreads applied on Risk Group
Payment margin code	9	2	A	Code for use of payment margin (former cash margin): 0 : No payment margin 1 : Payment margin used
Correlation matrix name	11	4	A	Unique identifier for the Correlation Matrix used in the time spread calculation (see Record Type 04) Note: a "dummy" identifier is shown also for risk groups without time spread (with offsetting code=0)
Week hours included	15	28	A	Code indicating units per day. If variable quantity per day, field is filled by zeros. Examples: Delivery every hour Monday through Sunday: 0024002400240024002400240024 Delivery Monday through Friday, 08:00 - 20:00: 0012001200120012001200000000 Delivery Monday through Friday, 08:00 - 20:00, Saturday and Sunday, 11:00 - 12:00 and 17:00 - 21:00: 0012001200120012001200050005
Price map	43	12	A	Name of price map
Fixed or variable quantity per day	55	1	A	F = Fixed quantity per day = Variable quantity per day (freight/seafood)

## 02 - Contract information

Field	Offset	Length	Format	Comment
Contract id	1	12	A	ISIN code for series
Ticker	13	24	A	ASCII name of the series
Group ID	37	6	A	Name of the risk group. Note: First 6 characters only
Tier Number	43	14	N	Tier number in inter commodity spread
First delivery day	57	8	N	Equals first date in margined time period. Format = YYYYMMDD

Field	Offset	Length	Format	Comment
Last delivery day	65	8	N	Determined via the field Delivery End in Power Delta Hedge Parameters: In case Delivery End equals "Delivery End value", delivery end in calculations is fetched from instrument series data in CDB. In case Delivery End equals "Delivery Start value", delivery end in calculations is set equal to the first delivery day value determined above. Format = YYYYMMDD
Period length nominator	73	8	N	Nominator for Amount (in units) that is margined.
Unit Size	81	8	N	Contract size as configured on the instrument class level (or the overriding value on instrument series level).
Closing	89	13	NF	Up until expiration day, this field contains the price used in the margin calculation. In the end of day case, this means the fixing price for the current day. Past expiration date the field contains fixing price as of expiration date. 4 decimals.
Reference price	102	13	NF	Zero for: Instruments with last trading date > current business date. Intra day: Instruments with last trading date = current business date. Fixing price on last trading date if: Last trading date < current business date. End of day: Last trading date = current business date 4 decimals.
Group	115	4	A	Type of instrument: OPT = Option FUT = Future FWD = Deferred Settlement Future CFDW = EPAD Deferred Settlement Future CFDU = EPAD future
Volatility shift down	119	5	N	Options: Fetched from Power Delta Hedge parameter field VolaDown. Percent with 3 decimals. Other instruments: Zero
Volatility shift up	124	5	N	Options: Fetched from Power Delta Hedge parameter field VolaUp. Percent with 3 decimals. Other instruments: Zero
Underlying Identity	129	12	A	ISIN for Upper Level Series
Underlying ticker	141	24	A	Name for Upper Level Series
Currency	165	4	A	Currency of the series.

Field	Offset	Length	Format	Comment
Price Quotation Multiplier	169	9	N	Options: Price quotation factor / contract size for underlying future/forward. Other instruments: Price quotation factor / contract size for series itself. 4 decimals The following records should be multiplied with this factor to get the correct value in the instrument currency: Record Type 02: Closing, Reference Price Record Type 03: Base price, Interval size
MTM style for futures	178	3	A	Blank for non futures. For futures, fetched from Power Delta Hedge parameter field MTM style: STD: Standard Normal mark to market until expiration date LTD: Last trading day Normal mark to market ends at last trading date
Period length denominator	181	4	N	Denominator for Amount (in units) that is margined.
Commodity	185	6	A	Name of underlying/commodity (reference to record type 12)
Product ID	191	16	A	Product ID for series

### 03 - Risk arrays

Field    Offset    Length    Format    Comment

Contract ID    1    12    A    Unique contract ID that refers to record type 02

Base price    13    13    NF    Options on futures/forwards: Used price of underlying future/forward. Other instruments: Used price of series itself.

- decimals.

This value should be multiplied with the Price Quotation Multiplier (record type 2) in order to get the value expressed in the instrument currency

Example: +000001355000 means 135.5000

Interval size    26    8    N    Size of valuation interval/scanning range expressed in the instrument currency. 2 decimals.

This value should be multiplied with the Price Quotation Multiplier (record type 2) in order to get the value expressed in the instrument currency

Example: 00002430 for ± 24.30 above/below the closing price

Base volatility    34    9    NF    Base volatility in scenario calculations. Percent with 2 decimals. For non-options, the value -00010000 is written.

For options expiring current date, the value +00006000 is written.

Value change\_143    9    NF    Risk array value in scenario point 1.

Value change\_252    9    NF    Risk array value in scenario point 2.

Value change\_361    9    NF    Risk array value in scenario point 3.

Value change\_470    9    NF    Risk array value in scenario point 4.

Value change_579	9	NF	Risk array value in scenario point 5.
Value change_688	9	NF	Risk array value in scenario point 6.
Value change_797	9	NF	Risk array value in scenario point 7.
Value change_8106	9	NF	Risk array value in scenario point 8.
Value change_9115	9	NF	Risk array value in scenario point 9.
Value change_10	124	9	NF Risk array value in scenario point 10.
Value change_11	133	9	NF Risk array value in scenario point 11.
Value change_12	142	9	NF Risk array value in scenario point 12.
Value change_13	151	9	NF Risk array value in scenario point 13.
Value change_14	160	9	NF Risk array value in scenario point 14.
Value change_15	169	9	NF Risk array value in scenario point 15.
Value change_16	178	9	NF Risk array value in scenario point 16.
Delta	187	10	NF Composite delta. 8 decimals.

Example: +051230000 for delta 0.51230000

Decimals in value changes 197 1 N Number of decimals in fields value change\_1 - 16.

## 04 - Correlation

Field	Offset	Length	Format	Comment
Correlation matrix name	1	4	A	Unique identifier for the Correlation Matrix used in the time spread calculation (see Record Type 01)
Number of days_1	5	5	NF	Number of calendar days to delivery. Example: 00027 for 27 days ahead.
Number of days_2	10	5	NF	Number of calendar days until delivery
Correlation	15	5	NF	Historically measured correlation in percentage price change between delivery for the two specified number of days ahead in time. Example: +0325 means a correlation of 0.325

## 05 - Time spread

Field	Offset	Length	Format	Comment
Price map name	1	12	A	Name of price map. (see record type 01)
Method	13	1	N	Number of adjacent interval steps to be searched for in a risk array
Parameter value	14	5	NF	Lowest correlation for this method Example: +0200 means a parameter of 0.2

## 06 - Currency conversion

Field	Offset	Length	Format	Comment
Currency rate	1	6	A	Currency Rate Examples : NOKEUR for conversion from EUR to NOK EURNOK for conversion from NOK to EUR
Rate-low	7	9	N	Exchange rate ("Haircut Low") used for conversion of scenario risk and liquidation value with a positive sign - or collateral - from quotation. 6 implied decimals. Example: 007362501 for rate 7.362501
Rate-high	16	9	N	Exchange rate ("Haircut High") used for conversion of scenario risk and liquidation value with a negative sign from quotation currency to margin calculation currency. 6 implied decimals. Example: 007457501 for rate 7.457501

## 09 - RNP definitions

Field	Offset	Length	Format	Comment
Null risk ID	1	12	A	ISIN for the RNP series
Null risk Ticker	13	24	A	ASCII name of the series
Contracts side 1	37	5	N	Number of contracts side 1. Ex: 00001 (1 contract)
Contracts side 2	42	5	N	Number of contracts side 2. Ex 00003 (3 contracts)

## 10 - RNP elements

Field	Offset	Length	Format	Comment
Null risk ID	1	12	A	ISIN code for the RNP series
Contract side	13	1	N	Side (1 or 2)
Participant	14	12	A	ISIN code of forward participating in the RNP

## 11 - Inter Commodity Spread Credits

Field	Offset	Length	Format	Comment
Priority	1	6	N	Priority, with leading zeroes
Credit rate	7	3	N	Credit rate in % (1-100)
Number of legs	10	1	N	Between 2 - 4
Leg 1: Tier	11	14	N	Tier in Leg 1
Leg 1: Delta/spread ratio	25	4	N	Delta/Spread ratio in Leg 1
Leg 1: A/B	29	1	A	A or B
Leg 2: Tier	30	14	N	Tier in Leg 2
Leg 2: Delta/spread ratio	44	4	N	Delta/Spread ratio in Leg 2
Leg 2: A/B	48	1	A	A or B
Leg 3: Tier	49	14	N	Tier in Leg 3
Leg 3: Delta/spread ratio	63	4	N	Delta/Spread ratio in Leg 3
Leg 3: A/B	67	1	A	A or B

Field	Offset	Length	Format	Comment
Leg 4: Tier	68	14	N	Tier in Leg 4
Leg 4: Delta/spread ratio	82	4	N	Delta/Spread ratio in Leg 4
Leg 4: A/B	86	1	A	A or B

## 12 - Delivery Calendar Data

Field	Offset	Length	Format	Comment
Commodity	1	6	A	Name of underlying/commodity
Fixed or variable	7	1	A	F = Fixed quantity per day V = Variable quantity per day (freight/seafood)
Week days included	8	28	A	Code indicating units per day. If variable quantity per day is used, code equals 0001 for weekdays with delivery, and 0000 for weekdays without delivery  Examples:  Delivery every hour Monday through Sunday: 002400240024002400240024  Delivery Monday through Friday, 08:00 - 20:00: 0012001200120012001200000000
Units to DLS	36	4	N	Number of units on transition day to daylight saving time (last Sunday in March)  Filled with 0000 if variable quantity per day
Units from DLS	40	4	N	Number of units on transition day from daylight saving time (last Sunday in October)  Filled with 0000 if variable quantity per day
Non delivery dates table	44	12	A	Name of non delivery dates table (only applicable if variable quantity per day)

## 13 - Non Delivery Dates

Field	Offset	Length	Format	Comment
Non delivery dates table	1	12	A	Table name
Non delivery date	13	8	N	Non delivery date (YYYYMMDD)

## 14 - Time Periods

Field	Offset	Length	Format	Comment
Risk group	1	6	A	Name of the risk group
Start date	7	8	N	Start of time period (YYYYMMDD)
Stop date	15	8	N	Stop of time period (YYYYMMDD)



Field	Offset	Length	Format	Comment
Tier number	23	14	N	Tier number in inter commodity spread credit calculations. Is filled with whitespaces if the time period is not included in intercommodity spread credit calculation
Quantity	37	8	N	Delivered quantity inside time period. Set to 00000000 for risk groups using variable quantity per day.

## 99 - Trailer

Field	Offset	Length	Format	Comment
Parameter set date	1	8	N	Business date as YYYYMMDD
Production date	9	8	N	Date when the file was produced as YYYYMMDD
Production time	17	6	N	Time when the file was produced as HHMMSS
Number of physical entries	23	8	N	For control purposes. Number of physical records in the file (header and trailer inclusive)
Number of logical entries	31	8	N	For control purposes. Number of logical records in the file (header and trailer inclusive)

## CHANGES

### Changes implemented 2003-02-07

Record type 00

Two new fields are added at the end of recordtype 00- File Header:

"ScanningRangeSRP" (implied: upper limit Scanning Range), today with value 45%, is quoted as a 5 character numeric field with two decimals. Implied, 45% is quoted as 04500.

"Holidayfactor", today with value 10% is quoted as a 5 character numeric field with two decimals. Implied, 10% is quoted as 01000.

The changes means that recordtype '00' gets more than 80 characters and recordtype '00' is therefore divided into two physical records. In the physical records, the first 6 characters is headerinformation. Datacontent follows from position 7.

Additional content to physical record '01', in relation to production version from the same date, is only '04', in physical record '02' the whole datacontent of '50001000' is new.

Put together the new fields gives '0450001000'  
 where  
 04500 is 'SRP', and  
 01000 is 'Holidayfactor'

### Changes implemented 2004-01-02

Record type 02, 07 and 08:

Number of characters in "Ticker" and "Underlying Ticker" changed to 24

### Changes implemented 2004-04-01

Filename changed

**Record type 99** - "number of physical entries" and "number of logical entries" has changed places

**Changes implemented 2004-04-26**

Filename changed (SPANPF.yyyymmdd)

**Changes implemented 2004-09-xx**

Record type 03: Delta included as new, last, field in record due to Deltanetting

Record type 09 & 10: New Records due to implementation of Risk Neutral Positions (RNP)

**Changes implemented due to CO2-contracts 2005-02-11**

Record type 00:

New Record: "Interest Rate Delivery Margin", the total interest rate used in the calculation of Delivery Margin

Record Type 01:

New codes: "Cash Margin", "Correlation Matrix", "Week hours included"

Note: "Week hours included" does not apply to CO2 contracts, set to 00000000000000

The following codes are not used: "Guarantee", "Liquidation value", "Value transfer", and are therefore not shown in the SPAN®-file

The following Risk Groups are not used: OPSJ, OSDE, OSFO, OSFU, STDE, STFO, STFU, SYFO, SYFU, and are therefore not shown in the SPAN®-file

Record type 02:

"First delivery day" set to Delivery day for CO2 contracts.

"Last delivery day" set to Delivery day for CO2 contracts.

"Period length" does not apply for CO2 contracts, set to 0.

New code: "Unit size" shows number of underlying CO2 emissions per CO2 forwards contract.

Record Type 04:

New field "Correlation Matrix", which enables the use of several correlation matrices

**Changes implemented due to ICSC contracts 2010-04-19****Output Evening SPAN parameter file**

Record type 02 will contain the tier connected to the product series. This could be placed after "Group ID" and before "first delivery day" this field will be 5 characters.

A new record type 11 will be added for Power inter commodity spreads.

Field	Offset	Length	Format	Comment
Priority	1	3	N	Priority
Credit rate	4	3	N	Credit rate in % (1-100)
Number of legs	7	1	N	Between 2-4
Leg 1 Tier	8	5	N	Tier in leg 1
Leg 1 Delta/spread ratio	11	2	N	Delta/spread ratio in leg 1
Leg 1 A/B	13	1	A	A or B
Leg 2 Tier	14	5	N	Tier in leg 2
Leg 2 Delta/spread ratio	17	2	N	Delta/spread ratio in leg 2
Leg 2 A/B	19	1	A	A or B

Leg 3 Tier	20	5	N	Tier in leg 3
Leg 3 Delta/spread ratio	23	2	N	Delta/spread ratio in leg 3
Leg 3 A/B	25	1	A	A or B
Leg 4 Tier	26	5	N	Tier in leg 4
Leg 4 Delta/spread ratio	29	2	N	Delta/spread ratio in leg 4
Leg 4 A/B	31	1	A	A or B

Note: Fields for leg 3 are only used in case number of legs is > 2. Fields for leg 4 are only used in case number of legs = 4.

In addition there will be a change in the span evening parameter file when CER contracts is taken out of the EUA risk group and added as a separate risk group. The CER risk group will be equal to the EUA risk group and have the same entries in the span file as the EUA have today. This means that CER contracts will have a separate volatility matrix, and a separate correlation matrix.

### Changes implemented 20110107

Updated the 06 - Currency conversion layout from 4 characters to 6. Updated the description wording of upper and lower rate to use initial margin and variation margin instead of scenario risk and liquidation value.

### Changes implemented for UK Natural Gas (NGUK) 20111113

#### Record Type 01

“Week hours included”: Since NG delivers 1000 therms / day, the format of the record is changed:

#### Current format:

010134EUKPEA1 0 EUKP12121212120000

**New Format;** (2 additional positions per “delivery day” - due to NG delivers 1000 therms/day)

010148EUKPEA1 0 EUKP0012001200120012001200000000 010148NGUKBL1 0 NGUK1000100010001000100010001000

#### Record Type 02

Since UK Natural Gas contracts are quoted in pence, a new record is introduced in the Record Type 02;

“Price Quotation Multiplier” (PQM)

Field	Offset	Length	Format	Comment
Price Quotation Multiplier	152	9	N	This multiplier (4 decimals) is relevant for UK Natural Gas contracts quoted in pence/therm and other contracts quoted in a format deviating from the actual instrument currency.

This multiplier is calculated as:

- For futures, forwards and CfDs:
  - PQM = quoted price in instrument currency / quoted price
- For options:
  - PQM = PQM of the underlying.

#### Note:

Price and interval size (value changes) of an NGUK contract is expressed in ‘pence’ in all applicable record types in the parameter file, but the instrument currency (margin and settlement) is ‘GBP’. The PQM may be used to scale NGUK contract prices and interval size (value changes) to ‘GBP’.

**Record Type 11:**

Correction in this document's section '11 - Inter Commodity Spread Credits':  
the Offset numbers beginning with 'Leg 1 Delta/spread ratio'

**Changes implemented for Genium Inet Commodities 20120305**

The changes are valid for the parameter file produced for position date Friday 2 March 2012, generated on Saturday 3 March 2012 and valid for the Collateral Call to be covered 5 March 2012. In addition to the below listed changes of file format, the name standard of the file is changed (see page 1 of this document). Please note that cash margin for Power contracts is removed - but cash margin is kept for Carbon contracts.

**Record type 00**

Cash Margin Futures: This field will always contain 00000.

First date cash margin: This field will always contain 00000000.

Last date cash margin: This field will always contain 00000000.

Cover margin: This field will always contain 00000.

Scanning range SRP: This field will always contain 00000.

Holiday Factor: This field will always contain 00000.

**Record type 01**

Week hours included: Is no longer set to zeroes for CO2 contracts (or other similar contracts with a discrete 'settlement day') CO2 contract has the value '1000' for each week day - actually the contract (lot) size of 1000

**Record type 02**

Period length: This field contains remaining amount to be delivered. For power contracts this is no change, but for CO2 contracts, it is no longer by definition containing zeroes. It contains the contract (lot) size until Delivery start, and then changes to zero.

Unit Size: This field contains Contract size (lot size). For CO2 contracts this is no change, but for power contracts, it is not any longer by definition containing zeroes.

Reference price: This field is zero before last trading date, and after that, it is the fixing price as of last trading date (i.e. final closing price). For power contracts this is no change, but for CO2 contracts, it is no longer by definition zero.

**Record type 07**

This record type is removed. The information was only needed for power cash margin.

**Record type 08**

This record type is removed. The information was only needed for power cash margin.

**Record type 11**

The number of digits of the Inter Commodity Spread 'Delta ratio' is changed from two (2) to four (4):

**Current format:**

11012936701720220110A0410322B

**New format:**

1101293670172022010010A041030022B

**Changes implemented for Genium INET Commodities 20121126****Record type 11**

SPAN file Record Type 11: Increase the number of characters in the field 'Priority' from 3 to 6

Note that zeroes shall be used to fill the field (example priority = 1444):

1101340014440182030050010A012050011B

Field	Offset	Length	Format	Comment
Priority	1	6	N	Priority, With leading zeroes.

### Changes implemented for Genium INET Commodities 20130610

#### Record Type 06

Exchange rates will be increased to 6 decimals:

Field	Offset	Length	Format	Comment
Currency rate	1	6	A	Currency Rate Examples : NOKEUR for conversion from EUR to NOK EURNOK for conversion from NOK to EUR
Rate-low	7	9	N	Exchange rate ("Haircut Low") used for conversion of scenario risk and liquidation value with a positive sign - or collateral - from quotation currency to margin calculation currency. Example: 007362501 for rate 7.362501
Rate-high	16	9	N	Exchange rate ("Haircut High") used for conversion of scenario risk and liquidation value with a negative sign from quotation currency to margin calculation currency. Example: 007457501 for rate 7.457501

#### Record Type 02

##### Field Group

There will be revised values for the field Group in Record Type 02 in the RPF. This field can have 4 characters (although all current values only use three).

- For CfD forwards, the current value CFD will be changed to CFDW
- For CfD futures, the value will be CFDU.

Field	Offset	Length	Format	Comment
Group	98	4	A	Type of instrument: <ul style="list-style-type: none"> <li>• OPT = Option</li> <li>• FUT = Future</li> <li>• FWD = Normal Forward</li> <li>• CFDW = CfD forward</li> <li>• CFDU = CfD future</li> </ul>

### Changes implemented for Genium INET Commodities 20130930

"Forward" will be replaced with "Deferred Settlement Future" or "DS Futures" and "CfD" (Contracts for Difference) will be replaced with the "Electricity Price Area Differential". For practical reasons, the abbreviation "EPAD" will be used where CfD has been used previously.

### Changes implemented for Genium INET SPAN 20131209

Added NOS Freight and Seafood Margining to be affective at NOS Go-Live (Highlighted Text in blue)

#### Record type 00 - File Header

##### New Fields

- File Type Indicates if the file is an end of day file or an intra day file.
- Run Number Equals file number for intra day files.

**Record Format**

One record,

Field	Offset	Length	Format	Comment
Parameter Set Date	1	8	N	Business date as YYYYMMDD.
Production Date	9	8	N	Date when the file was produced as YYYYMMDD
Production time	17	6	N	Time when the file was produced as HHMMSS
Extreme multiplier	23	5	N	Power Delta Hedge parameter field Extreme Move. Percent without decimals.
Extreme value percentage	28	5	N	Power Delta Hedge parameter field Extreme Move Coverage. Percent with 2 decimals.
Cash margin futures	33	5	N	Hardcoded as 00000
First date cash margin	38	8	N	Hardcoded as 00000000
Last date cash margin	46	8	N	Hardcoded as 00000000
Cover Margin	54	5	N	Hardcoded as 00000
Currency	59	4	A	Hardcoded as EUR
Scanning range SRP	63	5	N	Hardcoded as 00000
Holiday Factor	68	5	N	Hardcoded as 00000
Interest rate Financing Margin	73	5	N	Interest rate used for RNP financial margin calculations. Fetched from price parameter field Risk free interest rate applicable for an RNP. Example: 00600 for 6%.
File Type	78	1	A	= E for end of day files I for intra day files
Run Number	79	3	N	= Sequence number/margin run number for intra day files 0 for end of day files

**Record type 01 - Risk groups**

Changes to Existing Fields

- Field Week hours included: For instruments using variable quantity per day, code equals 0000. Corresponding information is instead included in the new record type 12.

New Fields

- Price map Name of used price map (Price and volatility map in CDB)
- Fixed or variable quantity per day Indicator telling whether the risk group uses fixed or variable quantity per day.

**Record Format**

One record per risk group. Sorted by ASCII name.

Field	Offset	Length	Format	Comment
Group identity	1	6	A	Name of risk group. Note: First 6 characters only.
Offsetting code	7	2	A	Code for offsetting of time periods in the group: 0 : No offsetting 1 : Offsetting used I for intra day files Fetched from field Time spreads applied on Risk Group

Cash margin code	9	2	A	Code for use of cash margin: 0 : No cash margin 1 : Cash margin used Fetched from power delta hedge parameters field Cash Margin applicable for one randomly chosen series of the risk group
Correlation matrix name	11	4	A	Name of Time dependent correlation used for this risk group
Week hours included	15	28	A	Code indicating units per day. If variable quantity per day, field is filled by zeros. Examples: Delivery every hour Monday through Sunday: 0024002400240024002400240024 Delivery Monday through Friday, 08:00 - 20:00: 0012001200120012001200000000 Delivery Monday through Friday, 08:00 - 20:00, Saturday and Sunday, 11:00 - 12:00 and 17:00 - 21:00: 0012001200120012001200050005
Price map	43	12	A	Name of price map (price and volatility map in CDB)
Fixed or variable quantity per day	55	1	A	F = Fixed quantity per day V = Variable quantity per day (freight/seafood)

## Record type 02 - Contract Information

### Changes to Existing Fields

- Field Period Length Nominator: Name is changed from Period Length to Period Length Nominator. The usage is different for instruments using variable quantity per day.
- Field Closing Price This field will always be populated by the price used in the margin calculation, regardless of how it has been determined.
- Field Reference Price In the intra day case, this field does also equal zero on last trading date.

### New Fields

- MTM style for futures
- Period length denominator
- Commodity

### Record Format

Field	Offset	Length	Format	Comment
Contract id	1	12	A	ISIN code for series
Ticker	13	24	A	ASCII name of the series
Group ID	37	6	A	Name of the risk group. Note: First 6 characters only
Tier Number	43	5	N	Tier number in inter commodity spread
First delivery day	48	8	N	Determined via the field Delivery End in Power Delta Hedge Parameters:  In case Delivery End equals "Delivery End value", value is fetched from instrument series data in CDB.  In case Delivery End equals "Delivery Start value", value is set to maximum of "delivery start in instrument series data in CDB" and "next settlement date".  Format = YYYYMMDD

Field	Offset	Length	Format	Comment
Last delivery day	56	8	N	Determined via the field Delivery End in Power Delta Hedge Parameters:  In case Delivery End equals "Delivery End value", delivery end in calculations is fetched from instrument series data in CDB.  In case Delivery End equals "Delivery Start value", delivery end in calculations is set equal to the first delivery day value determined above.  Format = YYYYMMDD
Period length nominator	64	8	N	Nominator for Amount (in units) that is margined.
Unit Size	72	8	N	Contract size as configured on the instrument class level (or the overriding value on instrument series level).
Closing	80	13	NF	Up until expiration day, this field contains the price used in the margin calculation. In the end of day case, this means the fixing price for the current day. Past expiration date the field contains fixing price as of expiration date.  4 decimals.
Reference price	93	13	NF	Zero for: <ul style="list-style-type: none"> <li>• Instruments with last trading date &gt; current business date.</li> <li>• Intra day: Instruments with last trading date = current business date.</li> </ul> Fixing price on last trading date if: <ul style="list-style-type: none"> <li>• Last trading date &lt; current business date.</li> <li>• End of day: Last trading date = current business date</li> </ul> 4 decimals.
Group	106	4	A	Type of instrument: <ul style="list-style-type: none"> <li>• OPT = Option</li> <li>• FUT = Normal Future</li> <li>• FWD = Normal Forward</li> <li>• CFDW = CfD Forward</li> <li>• CFDU = CfD Future</li> </ul>
Volatility shift down	110	5	N	Options: Fetched from Power Delta Hedge parameter field VolaDown. Percent with 3 decimals.  Other instruments: Zero
Volatility shift up	115	5	N	Options: Fetched from Power Delta Hedge parameter field VolaUp. Percent with 3 decimals.  Other instruments: Zero
Underlying Identity	120	12	A	ISIN for Upper Level Series
Underlying ticker	132	24	A	Name for Upper Level Series
Currency	156	4	A	Currency of the series.



Field	Offset	Length	Format	Comment
Price Quotation Multiplier	160	9	N	Options: Price quotation factor / contract size for underlying future/forward. Other instruments: Price quotation factor / contract size for series itself. 4 decimals The following records should be multiplied with this factor to get the correct value in the instrument currency: Record Type 02: Closing, Reference Price Record Type 03: Base price, Interval size
MTM style for futures	169	3	A	Blank for non futures. For futures, fetched from Power Delta Hedge parameter field MTM style: STD: Standard LTD: Last trading day
Period length denominator	172	4	N	Denominator for Amount (in units) that is margined.
Commodity	176	6	A	Name of underlying/commodity (reference to record type 12) In order to calculate total amount that is margined, one should calculate: (Period length nominator / Period length denominator)

The fields Period length nominator and Period length denominator are populated in the following way:

- Instruments using fixed quantity per day:
  - Period length nominator: Amount that is margined
  - Period length denominator : 1
- Instruments using variable quantity per day:
  - Period length nominator: "Contract size" \* "Number of margined delivery days"
  - Period length denominator : Total number of delivery days

### Record type 03 - Risk Arrays

New Fields

- Decimals in value changes

Record Format

Field	Offset	Length	Format	Comment
Contract ID	1	12	A	ISIN code for series
Base price	13	13	NF	Options on futures/forwards: Used price of underlying future/forward. Other instruments: Used price of series itself. 4 decimals. This value should be multiplied with the Price Quotation Multiplier (record type 2) in order to get the value expressed in the instrument currency

Interval size	26	8	N	Size of valuation interval expressed in the instrument currency. 2 decimals. This value should be multiplied with the Price Quotation Multiplier (record type 2) in order to get the value expressed in the instrument currency
Base volatility	34	9	NF	Base volatility in calculations. Percent with 2 decimals. For non-options, the value -00010000 is written. For options expiring current date, the value +00006000 is written.
Value change_1	43	9	NF	Risk array value in scenario point 1.
Value change_2	52	9	NF	Risk array value in scenario point 2.
Value change_3	61	9	NF	Risk array value in scenario point 3.
Value change_4	70	9	NF	Risk array value in scenario point 4.
Value change_5	79	9	NF	Risk array value in scenario point 5.
Value change_6	88	9	NF	Risk array value in scenario point 6.
Value change_7	97	9	NF	Risk array value in scenario point 7.
Value change_8	106	9	NF	Risk array value in scenario point 8.
Value change_9	115	9	NF	Risk array value in scenario point 9.
Value change_10	124	9	NF	Risk array value in scenario point 10.
Value change_11	133	9	NF	Risk array value in scenario point 11.
Value change_12	142	9	NF	Risk array value in scenario point 12.
Value change_13	151	9	NF	Risk array value in scenario point 13.
Value change_14	160	9	NF	Risk array value in scenario point 14.
Value change_15	169	9	NF	Risk array value in scenario point 15.
Value change_16	178	9	NF	Risk array value in scenario point 16.
Delta	187	10	NF	Composite delta. 8 decimals.
Decimals in value changes	197	1	N	[3.0.0201]: Number of decimals in fields value change_1 - 16.

**Notes:**

- For options expiring current date, the risk array values equal the following in the end of day case:
  - Calls: underlying price - strike price - price
  - Puts: strike price - underlying price - price

In the intra day case, the risk arrays used in the margin calculation will be displayed.

- For non-options expiring current date, the risk array values are calculated in the same way as for non-expired series.
- Before version 3.0.0201, risk arrays have 2 decimals, but where values should be multiplied with the Price Quotation Multiplier (record type 2) in order to get the value expressed in the instrument currency

**Record type 04 - Correlation**

## Changes to Existing Fields

- Field Number\_of\_days\_1 and Number\_of\_days\_2 Format changed from N to NF. Reason is that the number may be negative. Please note that the number of characters is unchanged (5). This means that the maximum possible value changes from 99999 to 9999.

## Record Format

Correlation matrix. The records come sorted by matrix name, 'number of days\_1, number of days\_2'. For the first row within a correlation matrix, only the diagonal element is written. For all other rows is the first column written, and then all rows from the diagonal element and further on.

Field	Offset	Length	Format	Comment
Correlation matrix name	1	4	A	Name of Time dependent correlation as given in CDB.
Number of days_1	5	5	N / NF	Number of days to delivery. Changed from N to NF in version 3.0.0201
Number of days_2	10	5	N / NF	Number of days to delivery. Changed from N to NF in version 3.0.0201
Correlation	15	5	NF	Correlation, Percent with 1 decimal.

### Record type 05 - Time Spread

Changes to Existing Fields

- Since the new field Price Map Name is placed first in the record, the existing fields will be shifted to the right.

New Fields

- Price map name Contains name of the CDB object

Record Format

Sorted by Price map name and Method.

Field	Offset	Length	Format	Comment
Price map name	1	12	A	Name of price map
Method	13	1	N	Window width
Parameter value	14	5	NF	Lowest correlation for this window width.

Note: If one window width has the same correlation value as the preceding one, no record will be written to the file.

### Record type 12 - Delivery Calendar Data

This is a new record type.

Record Format

This record type lists delivery calendar data on underlying/commodity level. Sorted by underlying name.

Field	Offset	Length	Format	Comment
Commodity	1	6	A	Name of underlying/commodity
Fixed or variable	7	1	A	F = Fixed quantity per day V = Variable quantity per day (freight/seafood)

Field	Offset	Length	Format	Comment
Week days included	8	28	A	Code indicating units per day. If variable quantity per day is used, code equals 0001 for weekdays with delivery, and 0000 for weekdays without delivery  Examples:  Delivery every hour Monday through Sunday: 0024002400240024002400240024  Delivery Monday through Friday, 08:00 - 20:00: 0012001200120012001200000000
Units to DLS	36	4	N	Number of units on transition day to daylight saving time (last Sunday in March)  Filled with 0000 if variable quantity per day
Units from DLS	40	4	N	Number of units on transition day from daylight saving time (last Sunday in October)  Filled with 0000 if variable quantity per day
Non delivery dates table	44	12	A	Name of non delivery dates table (only applicable if variable quantity per day)

Please note that the system currently has a restriction that delivery calendar data is the same for all instruments within a risk group. The construction of record type 12 does however allow for a future removal of this restriction without having to change the format of the risk parameter file.

### Record type 13 - Non Delivery Dates

This is a new record type.

Record Format

This record type lists non delivery dates for instruments using variable quantity per day. This means dates that are non delivery days (non-index days) even though the weekday normally should be a delivery day.

Sorted by Non delivery dates table and Non delivery date.

Field	Offset	Length	Format	Comment
Non delivery dates table	1	12	A	Table name
Non delivery date	13	8	N	Non delivery date (YYYYMMDD)

### Record type 14 - Time Periods

This is a new record type.

Record Format

This record type lists calculated time periods per risk group. Tier number used in inter commodity spread credit calculation is also included, Sorted by risk group name and start date.

Field	Offset	Length	Format	Comment
Risk group	1	6	A	Name of the risk group
Start date	7	8	N	Start of time period (YYYYMMDD)
Stop date	15	8	N	Stop of time period (YYYYMMDD)

Field	Offset	Length	Format	Comment
Tier number	23	5	N	Tier number in inter commodity spread credit calculations. Is filled with whitespaces if the time period is not included in intercommodity spread credit calculation
Quantity	28	8	N	Delivered quantity inside time period. Set to 00000000 for risk groups using variable quantity per day.

#### Changes implemented for Genium INET SPAN 2015123:

Change of tier number format has an impact on the SPAN file format. Records 02, 11, 14 in the SPAN file contain the Tier Number and will be affected by the change, i.e. increase in field length (new length: 14 chars) and change of field type from Numeric to Alphanumeric.

#### Changes implemented for Genium INET SPAN 20181005:

Technical preparations for the upcoming Product ID added in record type 2.