



## Börse Frankfurt Zertifikate AG

### eListing for Structured Products - Process and XML interface description

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## Document History

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Date	Version	Reason
08.06.2012	1.0	Document release
09.07.2012	1.0.1	Amendments to chapters 4, 6 and 7
30.08.2012	1.0.2	Incorporated changes to chapters 3, 4, 5 and 7, added chapter 8
20.09.2012	1.0.3	Detailed definition for QUOTATION_TYPE (chapter 3)
17.10.2012	1.0.4	Refined validation rule #54
19.11.2012	1.0.5	Amendments to chapters 4 and 7
12.09.2014	1.2	Incorporated dXXL 1.2 XML interface definition and business rules
16.03.2015	1.2.1	Incorporated amendments to dXXL 1.2 xml interface definition and business rules
05.04.2016	1.3	Incorporate new standard dXXL 1.3
14.07.2016	1.3.1	Incorporate new value "percent flat" for quotation type
27.10.2017	1.4	Incorporate information for dXXL 1.4 and remove information on decommissioned versions dXXL 1.1 and 1.2

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## 1 Introduction

Börse Frankfurt Zertifikate AG (short: Börse Frankfurt or BFZAG; formerly: Scoach) engaged in discussions with other market participants concerning an initiative to establish a standardized format for issuers to transfer listing applications and reference data for structured products. Under this proposal, a new data format was defined in 2012, meeting the following basic conditions:

- based on XML
- described by a W3C compliant XML schema (XSD), named derivate XXL (short: dXXL)
- comprises about 150 data fields
- Not designed to replace the existing data format and infrastructure, because the old format(s) and infrastructure will still be needed to support exotic product structures (e.g. Express bonus certificates, etc.)
- applicable for open market as well as for regulated market
- applicable for all current Börse Frankfurt trading models
- designed for listing both single instruments as well as series of instruments
- specification is open and free of charge<sup>1</sup>
- contains reference data, relevant for trading, for master data purposes and regulatory reporting

Due to the expressed desires of the issuers to establish such a standardized format, Börse Frankfurt implemented the XML in version 1.1 for listing applications in structured products in 2012. As the required fields for regulatory reporting were not covered in the preceding standards, the versions 1.1 and 1.2 were decommissioned end of 2016.

The standard is now enhanced to dXXL version 1.4. Main objective of dXXL Release 1.4 was to expand the functionality for instruments with an on exchange subscription period.

As the dXXL version 1.4 is as well backwards compatible, Börse Frankfurt accepts dXXL xml files in all two versions equally. Issuers planning to implement an automated listing application process are recommended to use version 1.4 from the beginning. There are some characteristics about the XML formats: Both contain not only data fields necessary for the sole purpose of listing and including instruments. In contrary some data fields are used to carry reference / master data content, e.g. bonus levels, barriers, thresholds, etc. which is used by data vendors, info portals and eventually by retail customers, querying for particular instruments.

Because Börse Frankfurt has outsourced its master data business to Ariva, dXXL XML files will therefore be forwarded to Ariva upon reception.

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<sup>1</sup> While the dXXL specification is open and free, implementing dXXL requires planning, software, and network services, if not other goods and services that could lead to one off or running costs. All those costs must be evaluated and covered by the issuer accordingly.

Additionally, this master data will be used for regulatory reporting.

Another original aspect of the initiative was to offer an interface that could be used as a backend to backend connection allowing STP (Straight Through Processing) data flows from each issuer to Börse Frankfurt.

With this standard, Börse Frankfurt offers secured file upload channels to its issuers, thus avoiding any major infrastructure requirements while providing flexibility to its customers (the issuers). This flexibility is manifested in offering two methods for uploading XML listing applications for structured products which can be used in parallel:

1. XML file(s) can be uploaded via customer web frontend using the existing eListing platform -already in use for unstructured products at the FWB- or
2. XML file(s) can be uploaded via an automated secure file upload platform, already in use at Clearstream Luxembourg for back office file transfers. (Multiple protocols are supported)

Both platforms mentioned above already exist and have been extended by Deutsche Börse Group on behalf of Börse Frankfurt to meet the requirements of the new XML format and interface. Furthermore, this investment provides issuers with the benefit of reusing existing connections and firewall configurations and thus the opportunity to keep overall efforts as low as possible.

Regardless of the method used to upload the XML application, the Börse Frankfurt eListing platform will check each application for accuracy, validity, and completeness and then sent to Market Supervision for further validation and processing.

## **2 Document objectives**

The intended audience of this document is issuers who plan to migrate their listing applications to the XML format and interface or issuers who plan upgrading from dXXL 1.3 to 1.4. respectively. The document intends to give detailed information about the XML data format, validation routines, data transport (interface), error feedback, the eListing GUI and more.

The aim is to give business analysts, consultants and or developers on the issuer side a process and format/interface description at hand in order to align their deliverables with the expected usage behavior of the Börse Frankfurt eListing platform.

For the migration from the old (CSV / Excel) to the new listing application formats Börse Frankfurt expects a certain transition period for each issuer to be individually planned and supported. Therefore this document will not contain any planning details for the migration itself.

Instead Börse Frankfurt kindly asks all issuers to include Börse Frankfurt in their migration plans at the earliest point possible. Börse Frankfurt also highly recommends setting up a migration project between issuer and Börse Frankfurt, to jointly plan project milestones and synchronize testing scope in due time.

This also applies for the necessary configuration steps that need to be taken in the eListing production environment in Frankfurt and Luxembourg, prior to the usage.

### 3 Data format of dXXL version 1.3 and 1.4

#### 3.1 Overview and caveats

The data format of dXXL versions 1.3 and 1.4 are described in two different ways.

At first this document will detail all data fields of all two versions in a table representation (chapter 3.2). Each data field will be listed by tag in the order of occurrence, including its definition, data type, representation in XML (cardinality, representation as attribute or element, etc.), allowed values, mandatory or optional indication and overall validation rules.

At second XML schema definition (XSD) are available describing the dXXL 1.3 and dXXL 1.4 in W3C's XML Schema language. The XSD of each dXXL version is represented in two .xsd files. One .xsd file contains the structure of dXXL (derivatexl\_130.xsd; derivatexl\_140), the other one contains custom type definitions (derivatexlTypes.xsd; derivatexlTypes130; derivatexlTypes140).

Please make sure you are using the **correct version** of the set of **XSD files!**

In order to verify that you are using the correct version you may create MD5-hash keys of your files and compare them with the ones provided by Börse Frankfurt:

File name	MD5-hash key	File details	Last modified
derivatexl_130.xsd	09a8dbdd7d24aad3cc9757d938d610e3	14.671 bytes, 14,3KB	22.02.2016 15:13
derivatexlTypes130.xsd	6a3ab82c47946318e8014351ab9e76ce	59.771 bytes 58,3KB	22.02.2016 15:13
Derivatexl_140.xsd	a775a51b399bf9cf0332c66add8923f7	15.0 KB (15,373 bytes)	17.08.2017
DerivatexlType140.xsd	c2ea775a2952bcbe3bc291d4af1e3a34	61.7 KB (63,222 bytes)	17.08.2017

The MD5-hash keys you generated must be identical to the ones specified above.

A more detailed description about the allowed product structure / categories is available on demand.

The data format of dXXL version 1.4 supports the following product structures:

### **Anlageprodukte (investment products)**

1100 Uncapped Capital Protection  
1110 Exchangeable Certificates  
1120 Capped Capital Protected  
1130 Capital Protection with Knock-Out  
1140 Capital Protection with Coupon  
1199 Miscellaneous Capital Protection  
1200 Discount Certificates  
1210 Barrier Discount Certificates  
1220 Reverse Convertibles  
1230 Barrier Reverse Convertibles  
1240 Capped Outperformance Certificates  
1250 Capped Bonus Certificates  
1260 Express Certificates  
1299 Miscellaneous Yield Enhancement  
1300 Tracker Certificates  
1310 Outperformances Certificates  
1320 Bonus Certificates  
1330 Outperformances Bonus Certificates  
1340 Twin-Win Certificates  
1399 Miscellaneous Participation

### **Hebelprodukte (leverage products)**

2100 Warrants  
2110 Spread Warrants  
2199 Miscellaneous Leverage without Knock-Out  
2200 Knock-Out Warrants  
2205 Open-End-Knock-Out Warrant  
2210 Mini-Futures  
2230 Double Knock-Out-Warrants  
2299 Miscellaneous Leverage with Knock-Out  
2300 Constant Leverage Certificate  
2399 Miscellaneous Constant Leverage Products

The data format of both dXXL versions 1.3 and 1.4 support something like a life cycle management for listing applications by utilizing two data fields. The allowed transitions are detailed in chapter 3.3.

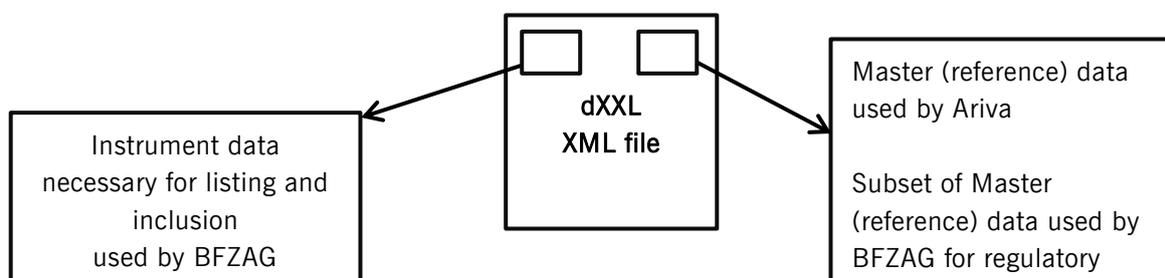
Non mutable data fields are detailed in chapter 3.4.

**Nota bene:** Although the dXXL 1.3 and 1.4 data format has been jointly agreed upon between Börse Stuttgart and Börse Frankfurt there are some differences to be expected in processing the XML data on the recipient side.

Possible reasons are:

- technical implementations on the recipient side will be (physically) independent and different
- validation rules will not be identical due to individual constraints and decisions on the recipient side
- release and rollout management are not strictly synchronized and will differ for each recipient

Looking at the XML format, the following figure illustrates that there are two logically different data sets comprised in a XML dXXL XML file:



Chapter 3.2 therefore shows not only the XML format's structure but also the validation rules in both logical sets that should be adhered to by the issuers.

For the inclusion of listing applications Börse Frankfurt decided to keep its focus on the logical set necessary for listing and inclusion, displayed on the left hand side in the figure above. All validation rules that apply here must be taken care of by the issuers. They are summarized in chapter 4.

### 3.2 Data structure

This chapter outlines structure and data field description of the dXXL 1.3 and 1.4 schema definitions. It is thought to serve human reader's needs in understanding the XML format.

Although this description has been carefully compiled, there may be deviations from the XSD files. Therefore, in the event of any inconsistency between this chapter and the XSD-files in version 1.3 and 1.4, only the XSD-files shall apply.

For better readability color codes were used in the table below. They indicate the element tag position within the hierarchy level of the XML schema definition as follows:

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
------------	------------	------------	------------	------------	------------

The table representation below was originally started as an Excel sheet developed by Börse Stuttgart and Börse Frankfurt for dXXL version 1.0 and was adapted by Börse Frankfurt to dXXL version 1.3 and 1.4

Please notice: There is a number assigned for each XML element in the table below (first row). This number is not used in the XSD but in various chapters of this document to uniquely identify a particular data field.

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
<b>1</b>	<b>DELIVERY</b>	<b>E</b>					
1.01	Date_of_delivery	A	Time and date stamp of when the data has been sent	DateTime		Yes	1) 0001
1.02	LISTING_APPLICATION	A	Name of the provider or of the software used to create the interface/delivery	Char50		Yes	1) 0081
1.03	Release	A	Version number of the interface format	Char10	1 1.3 1.4	Yes	

<sup>2</sup> The information given will only be of indicative use, please refer to the XSDs for ultimate reference

<sup>3</sup> The information given will only be of indicative use, please refer to the XSDs for ultimate reference

<sup>4</sup> The information given will only be of indicative use, please refer to the XSDs for ultimate reference

<sup>5</sup> The information given will only be of indicative use, please refer to the XSDs for ultimate reference

<sup>6</sup> The information given will only be of indicative use because the XSD file and the validation rules will determine whether a field is mandatory or not.

<sup>7</sup> All for Börse Frankfurt eListing applicable error codes are detailed in chapter 4, the values in this column are just an indication of potential error codes

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
1.04	Message_Type	A	Type of delivery e.g. new delivery, adjustment etc.: - NewListing is used if instrument (ISIN) is used the first time within the listing application process - UpdateListing is used to update instrument reference data for previously submitted instruments (ISINs) For UpdateListing all data fields must be populated again (no delta update). This message type can be used for completion or correction purposes. - DeleteListing is used to delete instrument reference data for previously submitted instruments (ISINs) within the listing application process.	Char30	NewListing UpdateListing DeleteListing	Yes	1) 8001  2) 8002  3) 8003  4) 8004  5) 8005  6) 8006

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
1.05	Status	A	<p>Differentiate between a complete delivery or a notice in advance:</p> <ul style="list-style-type: none"> <li>- "indicative" is used as notice in advance, for instance if instrument should be used as "intraday issuance" the day after or if reference data is missing.</li> <li>- "trade" is used if the instrument is tradeable on exchange but some data fields are missing, e.g. ISSUE_PRICE</li> <li>- "complete" is used if prerequisite for "trade" are fulfilled and if instruments reference data are complete</li> </ul> <p><b>N.b.:</b> If instruments have been submitted in status "indicative" only, they will not be included, i.e. those instruments will not be tradeable. All instruments that should be included must be sent at least once with status "trade" or "complete"</p>	Char10	indicative trade complete	Yes	<p>1) 8007</p> <p>2) 8008</p>

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
<b>2</b>	<b>GENERAL_IN FORMATION</b>	<b>E</b>					
2.01	LISTING_APPLICATION	E	Listing application needed to list new instruments on an exchange	CDATA max. 1 MB		No	
2.01.01	Doc_Type	A	The file format used for the Listing Application	Char4		Yes	
2.02	TRANCHE_ID	E	An issuers distinctive issuance identifier	Char30		Cond	1) 0002
2.03	TRANCHE_INSTRUMENTS_TOTAL	E	The total number of instruments in the Tranche	Decimal (5,0)		Cond	1) 0003
2.04	TERM_SHEET	E	The Term Sheet document	CDATA		No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
	Doc_Type	A	The file format used for the Term Sheet	Char4		Yes	
2.05	FINAL_TERM S_DOCUMENT	E	The Final Terms document	CDATA		No	
	Doc_Type	A	The file format used for the Final Terms	Char4		Yes	
<b>3</b>	<b>SENDER</b>	<b>E</b>					
3.01	SENDER_NO	E	Distinctive identification of the sender	Decimal (6,0)		Yes	
3.02	NAME	E	Name of the sender	Char100		Yes	1) 0082
<b>3.05</b>	<b>ADDRESS</b>	<b>E</b>					
3.05.01	Name	A	Name of responsible person on senders site	Char100			
3.05.02	Departement	A	department name of sender	Char100			
3.05.03	Zip	A	ZIP Code of the sender	Char12			
3.05.04	City	A	City of the sender	Char100			
3.05.05	Country	A	Country of the sender	Char3			

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
3.05.06	E_Mail	A	The senders E-Mail address	eMail			
3.05.07	Telephone	A	A telephone number that should be used for inquiries or technical difficulties	Telephone		Yes	
3.05.08	URL	A	senders web site / url	URL			
3.06	DBAG_INVOICE_RECEIPT_ID	E	Preferred billig account of sender. Payload must be senders unique invoice receipient ID from SAP.	Char20			
<b>4</b>	<b>ISSUER</b>	<b>E</b>					
4.01	ISSUER_ID	E	An issuers distinctive ID (WM issuer I.D.)	Decimal (6,0)		Yes	
4.02	NAME	E	Name of the issuer	Char100		Yes	1) 0083
4.03	ID_ISSUER_GROUP	E	Distinctive ID of the parent company. Should the parent company be the issuer then the Issuer ID of the parent company is to be used	Decimal (6,0)		Yes	
4.04	NAME_ISSUER_GROUP	E	Name of the issuers parent company. If the issuer is the parent company then the name of the issuer shall be used once more	Char100		Yes	1) 0084

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
4.06	LEI	E	Legal entity identifier of the issuer	Char20		No	
<b>4.05</b>	<b>ADDRESS</b>	<b>E</b>					
4.05.1	Name	A	Issuers name	Char100		No	
4.05.2	Departement	A	The issuing department	Char100		No	
4.05.3	Zip	A	ZIP Code of the issuer	Char100		No	
4.05.4	City	A	City of the issuer	Char100		No	
4.05.5	Country	A	Country of the issuer	Char100		No	
4.05.6	E-Mail	A	The issuers E-Mail address	eMail		No	
4.05.7	Servicetelephone	A	Issuers telephone number for inquiries regarding the issuance	Telephone		No	
4.05.8	Url	A	URL of the issuer	URL		No	
<b>5</b>	<b>PRODUCT</b>	<b>E</b>			can occur more than once within the XML file		1) 0004
<b>5.01</b>	<b>STATIC_DAT</b>	<b>E</b>					
<b>5.01.1</b>	<b>IDS</b>	<b>E</b>					

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.1.1	ISIN	E	Identification number of a Financial Instrument (International Securities Identification Number).	ISIN		Yes	1) 0079
5.01.1.2	WKN	E	Identification number of a Financial Instrument (German WKN).	WKN		Yes	
5.01.1.3	VALOR	E	Identification number of a Financial Instrument (Swiss Valor).	Char9		No	
5.01.1.4	COMMONCO DE	E	Common Code of the instrument. This code is provided by Euroclear or Clearstream S.A.	Common Code		No	
<b>5.01.2</b>	<b>DATES</b>	<b>E</b>					
5.01.2.1	ISSUE_DATE	E	Date on which the Financial Instrument is issued.	Date		Yes	1) 0005
5.01.2.2	VALUE_DATE	E	Date on which the Financial Instrument, that was bought or sold, must be delivered. Indicates the begin of the interest calculation period for a bond. Date on which the first possible settlement occurs	Date		Yes	1) 0006

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.2.3	MATURITY	E	The date on which the issuer effects payment (cash or shares) to the Clearing System which will in turn forward the designated payments to the investor's account.	Date		Cond	1) 0007 2) 0008 3) 0009
5.01.2.4	PAYMENT_DATE	E	Payment date after or at maturity	Date		Cond	1) 0010 2) 0011 3) 0012 4) 0013 5) 0014

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.2.5	FINAL_VALUATION_DATE	E	Date on which the Underlying is finally evaluated in order to calculate the Cash Amount or on which on the decision will be taken whether the Financial Instruments will be settled in cash or by physical delivery.	Date		Cond	1) 0015 2) 0016 3) 0017
5.01.2.6	BARRIER_START_DATE	E	Begin of the barrier observation period	DateTime		Cond	1) 0018 2) 0019
<b>5.01.2.7</b>	<b>OTC</b>	<b>E</b>					
5.01.2.7.1	FIRST_TRADING_DATE	E	First trading day of the Financial Instrument in the OTC Market	Date		Cond	1) 0020 2) 0021 3) 0022

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.2.7.2	LAST_TRADING_DATE	E	Last trading day of the Financial Instrument in the OTC Market	Date		Cond	1) 0023 2) 0024
5.01.2.7.3	TRADING_HOURS_START	E	Trading time begin for an instrument in the OTC Market	Time		Cond	1) 0025 2) 0026
5.01.2.7.4	TRADING_HOURS_END	E	End of trading for an instrument in the OTC Market	Time		Cond	1) 0027
<b>5.01.3</b>	<b>FURTHER_INFORMATION</b>	E					
5.01.3.1	NAME	E	Name of the instrument	Char256		No	
5.01.3.2	NAME_SHORT	E	Abbreviation of the instruments name according to the issuer	Char256		Yes	1) 0085

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.3.16	FISN	E	Financial Instrument short name according to ISO 18774	Char35		No	
5.01.3.17	CFI_CODE	E	Classification of financial instrument code	Char6		No	
5.01.3.3	QUOTATION	E	Type of quotation	Char7	Unit Percent Percent flat X-Flat	Yes	
5.01.3.4	BOND_PRICING	E	Type of pricing used for bonds	Char5	Clean Dirty	Cond	1) 0028 2) 0029
5.01.3.5	PRIVATE_PLACEMENT	E	Identifier for a private placement	Char1	Y N	Yes	
5.01.3.6	UNLIMITED	E	Identifier for an Open-Ended Instrument with no maturity	Char1	Y N	Yes	
5.01.3.7	QUANTO	E	A special form of currency hedging where a (foreign) currency is converted into the issue currency of the Financial Instrument at a predetermined rate (usually at a 1:1 ratio).	Char1	Y N	Yes	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.3.8	EXERCISE_RIGHT	E	Option type	Char4	Call Put	Cond	1) 0030 2) 0031
5.01.3.9	EXERCISE_STYLE	E	Indicates whether the Warrant can be exercised throughout its entire lifetime (American), or only on the Exercise Date (European) or at fixed dates determined in the Terms and Conditions of the Financial Instrument (Bermudan).	Char8	european american bermudan	Cond	1) 0032
5.01.3.10	ISSUE_PRICE	E	Initial offering price of the Financial Instrument.	Decimal (20.5)		No	
5.01.3.11	ISSUE_VOLUME	E	Issuance amount of the Financial Instrument	Decimal (20.5)		Yes	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.3.12	DDV_CATEGORY_NAME	E	Name of the DDV category in which the instrument is classified	Char40	<b>Strukturierte Anleihen</b> <b>Kapitalschutz-Zertifikate</b> Discount-Zertifikate <b>Aktienanleihen</b> <b>Express-Zertifikate</b> Bonus-Zertifikate <b>Index-/Partizipations-Zertifikate</b> <b>Outperformance-Zertifikate</b> <b>Sprint-Zertifikate</b> Optionsscheine Knock-Out Produkte	Yes	1) 0033

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.3.13	EUSIPA_ID	E	EUSIPA Code: an instruments derivative category according to the EUSIPA Derivative Map	Char4	1100 1110 1120 1130 1140 1199 1200 1210 1220 1230 1240 1250 1260 1299 1300 1310 1320 1330 1340 1399 2100 2110 2199	Cond	1) 0034

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
					2200 2205 2210 2230 2299 2300 2399		

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.3.14	EUSIPA_NAME	E	Name of the EUSIPA derivative category according to the EUSIPA Derivative Map	Char50	Kapitalschutz Zertifikate Strukturierte Anleihen Weitere Anlageprodukte mit Kapitalschutz Discount Zertifikate Aktienanleihen Sprint Zertifikate Express Zertifikate Index / Partizipations Zertifikate Outperformance Zertifikate Bonus Zertifikate Weitere Anlageprodukte ohne Kapitalschutz Optionsscheine Weitere Hebelprodukte ohne Knock-Out Knock-Out Produkte Weitere Hebelprodukte mit Knock-Out	Cond	1) 0035
5.01.3.15	SETTLEMENT_METHOD	E	The Settlement Method is either a cash settlement, physical settlement or both	Char8	Cash Physical Both	Yes	
5.01.3.20	ISSUE_TYPE	E	Declaring the issue type in terms of intraday or other	Char20	Standard Intraday Subscription	Yes	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.3.21	ACTIVATION_TIME	E	Date and time on which the intraday issuance is activated	DateTime		No	
5.01.03.22	DXXL_CLASSIFICATION	E	Classifikation key which describes the structural attributes of all instruments	Char8	B1000000, B2000000, B1000100, B1000200, B1100000, B1100100, B2100000, B2000100, D1200000, D1600000, D1600100, D2200000, A1990000, A1300000, A1300100, O1990000, O2990000, O1200000, O2200000, K1501000, K2501000,	No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
					K1401000, K2401000, K1401400, K2401400, K1400000, K2400000, K1400400, K2400400, K1501300, K2501300		
5.01.3.2 3	PARTICIPATION_FACTOR	E		Decimal (5.2)		No	
5.01.3.2 4	US871M_RELEVANT	E		Logical		No	
5.01.3.2 5	US871M_FACTOR	E		Decimal (5.2)		No	
5.01.3.2 6	AGIO	E		Decimal (5.2)		No	
<b>5.01.4</b>	<b>PAYMENTS</b>	<b>E</b>					
<b>5.01.4.1</b>	<b>INTEREST</b>	<b>E</b>					

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.4.1.1	INTEREST_RATE	E	Interest Rate p. a. is the interest rate, expressed in percent, for a one year period on the notes. The calculation of interest is made on the basis of the respective day count fraction.	Decimal (8.5)	>= 0	Cond	1) 0040 2) 0041
5.01.4.1.2	FIXED_AMOUNT	E	If a fixed amount per note is payable then such amount will be paid on the dates specified in the terms and conditions regardless of the time elapsed.	Decimal (20.5)	>0	Cond	1) 0042
<b>5.01.4.2</b>	<b>REDEMPTION</b>	<b>E</b>					
5.01.4.2.1	CASH_AMOUNT	E					
5.01.4.2.1.1	VALUE	E	Amount paid by the Issuer at Maturity.	Decimal (20.5)	>= 0	No	
5.01.4.2.1.2	CURRENCY	E	Currency of the amount paid by the Issuer at Maturity.	Char3 (ISO-Currency)		No	
5.01.4.2.2	MAXIMUM_AMOUNT	E					

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.4.2.2.1	VALUE	E	Maximum amount payable at Maturity	Decimal (20.5)	>= 0	No	
5.01.4.2.2.2	CURRENCY	E	Currency of the maximum amount payable by the Issuer at Maturity.	Char3 (ISO-Currency)		No	
<b>5.01.4.2.3</b>	<b>BONUS_AMO UNT</b>	<b>E</b>					
5.01.4.2.1.1	VALUE	E	Amount payable to the investor (i) if the Barrier Level was not touched during the Observation Period and (ii) if the price of the Underlying, on the Valuation Date, is below the Bonus Level.	Decimal (20.5)	>= 0	Cond	1) 0043
5.01.4.2.1.2	CURRENCY	E	Currency of bonus amount payable by the Issuer at Maturity.	Char3 (ISO-Currency)		No	1) 0043
5.01.04.03	INTEREST_CALC_TYPE	E	The method of calculation the interest payment	Char 8		No	
<b>5.01.5</b>	<b>TERMINATION_RIGHTS</b>	<b>E</b>					
5.01.5.1	OBLIGOR_TERMINATION_RIGHTS	E	Should the obligor termination right exist, then yes	Char1	Y N	No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.5.2	CREDITOR_TERMINATION_RIGHTS	E	Should the creditor termination right exist, then yes	Char1	Y N	No	
5.01.5.3	EXTRAORDINARY_TERMINATION_RIGHTS	E	Should an extraordinary termination right exist, then yes	Char1	Y N	No	
<b>5.01.6</b>	<b>DOCUMENTATION</b>	E	Occurrence changed to unbounded				
5.01.6.1	DESCRIPTION	E	Free text: e.g. description of a trade restriction, a specific product type from the issuer or of the calculation method used for the redemption amount	Char4000		No	
5.01.6.2	URL	E	Internet address	URL		No	
5.01.06.03	DOCTYPE	E	Type of document provided for the instrument	Char (100)		No	
5.01.06.04	LANGUAGE	E	Language of the documentation	Char 2		No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
<b>5.01.7</b>	<b>UNDERLYING</b>	E	An underlying asset is the basis of the Financial Instrument (investment or leveraged product) which can consist of equity, market indices, currencies, futures contracts or baskets of instruments and which determines the price of the Financial Instrument.		May occur more than one time.  This TAG has no payload but serves as bracket.		
<b>5.01.7.1</b>	<b>UL_IDS</b>	E					
5.01.7.1.1	ISIN	E	ISIN of the Underlying	ISIN		Yes	
5.01.7.1.2	NAME	E	Name/description/marketing name of the Underlying	Char256		Yes	1) 0086
5.01.7.1.3	TYPE	E	Type of Underlying	Char11	Basket Index Fonds Futures Simple Combination	Yes	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.7.1.4	ASSET_CLASSES	E	Asset class of the Underlying	Char14	Shares Commodities FX Interest Rates Other	No	
5.01.7.1.5	COUNTRY	E	The country ISO-Code of the reference exchange	Char3	alle Länder-Codes, siehe Tab-Page Legenden	No	
5.01.7.1.6	CURRENCY	E	The ISO-Code of the currency used in the price quotation on the reference exchange (Strike currency)	Char3 (ISO-Currency)	alle Währungs-Codes, siehe Tab-Page Legenden	Yes	
5.01.7.1.7	MIC_EXCHANGE	E	The Market Identifier Code (MIC) of the exchange where the Underlying is traded and quotes are provided	Char4	alle MIC-Codes, siehe Tab-Page Legenden	No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.7.1.8	MULTIPLIER	E	The Multiplier of a Financial Instrument indicates the number of units of the Underlying to which the Financial Instrument refers (e. g., in case of a Multiplier of 0.1, a warrant linked to a share refers to one tenth of that share, i. e. upon exercise, the securityholder will receive one tenth of the difference between the market price and the Strike).	Decimal (20.10)	>0	Cond	1) 0044
5.01.7.1.9	REFERENCE_PRICE_AT_ISSUE	E	The price of the Underlying on one or more Valuation Dates which is used to calculate the Cash Amount.	Decimal (20.5)		No	
<b>5.01.7.2</b>	<b>BARRIER</b>	E	Is defined by barrier type and value. Per instrument more than one barrier definition is possible. Each barrier type must occur only one time			No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.7.2.1	BARRIER_TY PE	E	Type of Barrier/threshold	Char2	BO GA PA CA LI KO BT TP SP SE SL TL	Cond	1) 0045 2) 0046 3) 0047 4) 0048 5) 0049

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.01.7.2.2	VALUE	E	Some of the equity-linked Reverse Convertible Notes may have an additional Barrier below the Strike. If the price of the Underlying does not touch the Barrier during the lifetime of the Notes or during an observation period, determined in the Terms and Conditions, the Notes are redeemed at Maturity at their Nominal Amount.	Decimal (20.10)	>0	Cond	1) 0090 2) 0050 3) 0051 4) 0052 5) 0053
<b>5.02</b>	<b>LISTING</b>	<b>E</b>	<b>Must occur at least on time, may occur many times</b>			<b>Yes</b>	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.1	MIC_EXCHANGE	E	Market Identifier Code (MIC) of the exchange where the instrument is to be listed	Char4	XSTU XFRA XFRB FRAA FRAB STUA STUB XSC1 XSC2 XSC3	Yes	1) 8009
5.02.2	MARKET_SEGMENT	E	Market segment that is designated in the listing application	Char17	Regulierter Markt Freiverkehr	Yes	1) 8015
5.02.3	TRADING_SEGMENT	E	Trading segment that is designated in the listing application	Char40	For Börse Frankfurt : Permitted values are only "Börse Frankfurt Standard", "Börse Frankfurt Premium", "Börse Frankfurt Asia"	Yes	1) 8012

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
					or "Börse Frankfurt Premium Asia"		
5.02.4	TRADING_M ODEL	E	<p>Basic principle for the price determination</p> <p>Börse Frankfurt:  Emittentenmodell = continous action with issuer  Spezialistenmodell = continous action with specialist</p> <p>Börse Stuttgart  A = liquidity is free of choice  B = issuers liquidity above QLP-liquidity  C = no liquidity provided by QLP allowed  Z = instruments not listed in Euwax-Segment  0 (Null) = no trading model</p>	Char40	Emittentenmodell Spezialistenmodell A B C Z 0	Yes	1) 8011

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.5	FIRST_TRADING_DATE	E	First trading day on the exchange	Date		Yes	1) 0054
5.02.6	LAST_TRADING_DATE	E	Last trading day of the Financial Instrument on the exchange	Date		Cond	1) 0055 2) 0056 3) 0057
5.02.7	DELISTING_DATE	E	Date on which the instrument is delisted from the exchange			No	1) 0058
5.02.8	TRADING_HOURS_START	E	The trading time begin for an instrument on the respective exchange	Time		Cond	1) 0059 2) 0060
5.02.9	TRADING_HOURS_END	E	Time at which trading of the instrument on the respective exchange stops	Time		Cond	1) 0061 2) 0062

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.10	TRADING_CURRENCY	E	Currency of the traded instrument on the respective exchange	Char3	EUR CHF USD SEK HKD CZK HUF PLN GBP DKK AUD CAD SGD NOK	Yes	1) 0063
5.02.11	MIN_ORDER_VALUE_CURRENCY	E	The minimum order value represented in the instruments trading currency	Decimal (20.5)		Cond	1) 0064
5.02.12	MIN_ORDER_VALUE_QUANTITY	E	The quantity of the minimum order value represented in units	Decimal (20.5)		Cond	1) 0065
5.02.13	MIN_TRADING_UNIT	E	Minimum tradable size per unit	Decimal (20.5)		Yes	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.14	MAX_SPREAD_CURRENCY	E	Maximum Spread represented in the trading currency	Decimal (20.5)		Cond	1) 0066
5.02.15	MAX_SPREAD_PERCENT	E	Maximum Spread represented in percent	Decimal (20.5)		Cond	
5.02.17	STATE_BONDS	E	Admission to the regulated market through the act of law in accordance with Article 37 of the Stock Exchange Rules	Char1	Y N	Cond	1) 0068
5.02.18	INCLUSION_REGULATED_MARKET	E	Inclusion into the regulated market in accordance with Article 33 I of the Stock Exchange Act	Char1	Y N	Cond	1) 0069
5.02.19	DATE_REGISTRATION_APPROVAL_REGULATED_MARKET	E	Date on which the registration for the inclusion into regulated market was approved	Date		Cond	1) 0070
5.02.20	FURTHER_EXCHANGE	E	Indication that the instrument is already listed on another exchange	Char1	Y N	Cond	1) 0071

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.21	MIC_FURTHER_EXCHANGE	E	Declaring of the other exchange(s) where this instrument is already listed	Char4	alle MIC-Codes, siehe Tab-Page Legenden	Cond	1) 0072
5.02.22	BASE_PROSPECTUS	E	Date on which the base prospectus was deposited	Date		Cond	1) 0073
5.02.23	DATE_FINAL_TERMS	E	Date on which the final terms of the issuance was deposited with BaFin and published in accordance with Article 14 (2) of the securities law	Date		Cond	1) 0074
5.02.24	FINAL_TERMS	E	Location where final terms are deposited	Char500		Cond	1) 0075
5.02.25	EXPOSE	E	Has the Exposé been submitted?	Char1	Y N	Cond	1) 0076
5.02.26	PROSPECTUS_SUBMITTED	E	Has the prospectus been submitted?	Char1	Y N	Cond	1) 0077

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.27	PROSPECTUS_ADMITTED	E	Is the prospectus officially recognized by a regulatory- or supervisory authority?	Char1	Y N	Cond	1) 0078 1) 0080
5.02.28	QUOTE_OBLIGOR	E	Name of the institution responsible for providing quotes	Char(100)	Please provide WM issuer ID, see 4.01	Yes	1) 8010
5.02.29	XETRA_ID_QUOTE_OBLIGOR	E	Xetra ID of the institution responsible for providing quotes	Char5	ABNLO, BALFR, BEBBL, BFGFR, BHFFR, BNAPA, BOSLO, BVMMU, BZWCX, CBKFR, CENWI, CITFR, CSBLO, DBKFR, DGEFR, DGZFR, EXAPA, GSILO, HELFR, ICFR, INGAM, JPSLO, JVCZU, LSWST, LSTDU, LSHKI, MACFR, MGILO, MLILO, NOILO, OPPFR, RABAM,	Yes	1) 0087

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
					SKAZH, SOGFR, TDICY, TIMZG, TUBDU, UBWLO, WLBDU		
5.02.30	XETRA_SUBGROUP_ID_Q UOTE_OBLIG OR	E	Xetra Subgroup ID of the institution responsible for providing quotes	Char3	QPR, QP0, QP1, QP2, QP3, QP4, QP5, QP6, QP7, QP8, QP9, QPA, QPB, QPC, QPD, QPE, QPF, QPG, , QPH, QPI, QPJ, QPK, QPL, QPM, QPN, QPO, QPQ, QPS, QPT, QPU, QPV, QPW, QPX, QPY or QPZ	Yes	1) 0088
5.02.31	SPECIALIST_KV_ID	E	A specialists KV I.D.	Char4		Yes	1) 0089

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.02.32	QUOTATION_TYPE	E	<p>Indicates whether a Market-Maker provides a single price or the continuous price determination.</p> <p>The permitted values have the following meanings:  1=cash quotation / price ("Kassakurs")  2= variable (variable)  3= cash and variable ("Kassa und variabel")</p> <p>Because there is no cash quotation / price at Börse Frankfurt any more, QUOTATION_TYPE is used to indicate single auctions ("Einzelauktion").</p> <p>With single auctions, there will be only one price determination allowed between 11 a.m. – 1 p.m.</p> <p>If the instrument should be treated with the execution restriction "single auction" QUOTATION_TYPE must be "1".</p> <p>In any other case, QUOTATION_TYPE must be "2" or "3".</p>	Char1	1 2 3	Yes	
5.02.33	REQ_ADMISSION_OF_TRADING	E	Whether the issuer of the financial instrument has requested or approved the trading or admission to trading of their financial	Char1	Y N	No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
			instruments on a trading venue.				
5.02.34	DATE_APPROVED_ADMISSION_OF_TRADING	E	Date and time the issuer has approved admission to trading or trading in its financial instruments on a trading venue.	DateTime		No	
5.02.35	SUBSCRIPTION_START	E	Date on which the Subscription period begins	DateTime		Cond	
5.02.36	SUBSCRIPTION_END	E	Date on which the Subscription period ends	DateTime		Cond	
5.02.37	TECH_SUSPENSION	E	Date of the Technical Suspension after the Subscription period and before the first trading day	Date		Cond	
5.02.38	SETTLEMENT_CURRENCY	E		CurrencyType		No	
<b>5.03</b>	<b>SAFEKEEPING</b>	<b>E</b>					
5.03.1	ACCOUNT_NUMBER	E	The Clearstream Banking Frankfurt account number of the issuer	Decimal (12.0)		No	
5.03.2	TYPE_OF_DEED	E	Type of certificate	Char13	Globalurkunde Rahmenurkunde	No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.03.3	SECURITIES_ACCOUNT_NUMBER	E	The issuers securities account number	Decimal (12.0)		No	
5.03.4	UP_TO_NOMINAL	E	Maximum nominal amount of an issuance	Decimal (20.5)		No	
5.03.5	NOMINAL	E	Nominal of the Global Certificate	Decimal (20.5)		No	
5.03.6	TYPE_OF_CUSTODY	E	Indicates whether or not a collective safe custody is in place	Char1	Y N	Yes	
<b>5.04</b>	<b>INTERNAL</b>	<b>E</b>					
5.04.01	ITEM	E	May occur more than once. Payload of this element can carry internal content.	Char4000		No	
5.04.01.1	KEY_ITEM	A	Identification key which classifies the ITEM content	Char50		Yes	
5.04.2	COMPLEX_ITEM	E	May occur more than once	CDATA		No	

No.	English Term / TAG_ID <sup>2</sup>	Attribute Element <sup>3</sup>	Definition in English	Format <sup>4</sup>	Permitted values <sup>5</sup> (if applicable)	Mandatory <sup>6</sup> ?	Potential error codes <sup>7</sup>
5.04.2.01	KEY_ITEM	A	Identification key which classifies the COMPLEX_ITEM content	Char50		Yes	

### 3.3 Status model and use cases

The XML attributes message type (1.04) and status (1.05) (cp. chapter 3) allow a kind of life cycle management for listing applications.

The status (1.05) can be either “indicative”, “trade” or “complete”. The following message type values are allowed: “NewListing”, “UpdateListing” and “DeleteListing”. All status values can be used with all message type values. But if an instrument (ISIN) is sent more than once via dXXL, only certain “message type”-status combinations and transfers are allowed, see table below.

Previous message type / status ⤴	New message type / status ⤵				
	UpdateListing / indicative	UpdateListing / trade	UpdateListing / complete	DeleteListing / *	NewListing / *
NewListing / indicative	Allowed	allowed	Allowed	Allowed	
NewListing / trade		allowed	Allowed	Allowed	
NewListing / complete			Allowed	Allowed	
UpdateListing / indicative	Allowed	allowed	Allowed	allowed	
UpdateListing / trade		allowed	Allowed	allowed	
UpdateListing / complete			Allowed	allowed	
DeleteListing / *					

For instruments listed the first time (new ISIN) the message type must always be “NewListing”. All status values would be eligible and only depend on how “complete” the instrument data is categorized by the issuer.

The following use cases for listing applications may occur and are allowed to be sent via dXXL:

#	Use case	Message Type	Status	Condition	Description / Processing
1	New standard listing application (non-intraday issuance)	NewListing	complete	ISSUE_TYPE (5.01.3.20) must be <b>“Standard”</b>	Use case for standard listing application, i.e. for newly issued instrument with complete reference data. If instrument listing application is accepted by exchange market supervision, the instrument is listed and included in the exchange trading system for

#	Use case	Message Type	Status	Condition	Description / Processing
					the first trading date (at earliest on the next trading day).
2	New intraday issuance listing application	NewListing	indicative	(ISSUE_TYPE (5.01.3.20) must be <b>"Intraday"</b> )	Use case for listing application of so called "intraday issuances", i.e. for newly issued instrument with incomplete reference data that should be made available/ tradable the following day. If instrument listing application is accepted by exchange market supervision, the instrument will be stored temporarily in a staging database. Both exchanges (Börse Stuttgart and Börse Frankfurt) will not be made the instrument tradable in the exchange trading system because of missing mandatory data. In order to make the instrument tradable the expected behavior is to send either case #3. Alternatively the listing application for this instrument might be withdrawn, see use case #4.
3	Add missing data for intraday issuance listing application	UpdateListing	complete	(ISSUE_TYPE (5.01.3.20) must be <b>"Intraday"</b> )	Use case for adding missing data for instruments which have been send as (indicative) intraday listing before (see use case #2). If instrument update listing application is accepted by exchange market supervision, the instrument is listed and included in the exchange trading system for the next trading day.
4	Withdraw listing application before first trading date	DeleteListing	complete	FIRST_TRADING_DATE (5.01.2.7.1) must be in the future.	Use case for withdrawing a listing application. It may be used if market movements have made the instrument obsolete, e.g. if the barrier level was already touched. This use case is only allowed in case the instruments first trading date has not been reached.
5	Correct incorrect data for listing application before first trading day (both standard and intraday)	UpdateListing	complete	FIRST_TRADING_DATE (5.01.2.7.1) must be in the future.	Before the first trading date has been reached, it is possible to correct incorrect data with this use case.

**Example:** For a new “intraday issuance” (first trading date > issuance date) the issuer categorizes the instrument as “indicative” but not yet tradable, e.g. strike price and exercise right are missing. Message type and status would then be “NewListing” and “indicative”. The instrument would be listed and included and “put onto Xetra”. On the first trading day the missing data of this instrument (ISIN) would then be determined by the issuer. The issuer would then send the instrument data a second time via dXXL but now with message type and status being “UpdateListing” and “complete”. Message type “NewListing” and status “indicative” would not have been allowed for the second transmission.

All listing data that is received in XML format must be validated will be validated for correct status and message type combinations: Firstly their payload must comply with the permitted values, secondly the transition of message type and status combinations must be allowed.

### 3.4 Non mutable data fields

The following XML elements / attributes must not be changed by the issuer during the listing application life cycle:

- 1.02, Provider
- 1.03, Release
- 2.02, TRANCHE\_ID
- 3. Sender Information fields (3.01 and 3.02)
- 3.05 Address Information fields (3.05.01 to 3.05.08)
- 5.01.1.1, ISIN
- 5.01.1.2, WKN
- 5.01.1.3, VALOR
- 5.01.1.4, Common Code

**Nota bene:** If e.g. VALOR will not be set with a value in first place (with NewListing) it will not be updateable later

## 4 Validation rules

This chapter provides a detailed definition about the validation rules applied by the Börse Frankfurt eListing platform, after an XML file has been uploaded by the issuer. Failed validation rules could

lead to a rejection of the listing application.

Implicit validation of the XML file against the provided XSD (XML Schema Definition) and the (custom) data types will always be performed.

The validation rules are to be interpreted the following way: On processing, all validation rules below must have TRUE outputs. Otherwise there was an error will be handled by the eListing platform in the described manner (see action on FALSE).

Only validation error-free data will be stored, further processed and eventually included on Xetra.

There are validation rules causing the rejection of the entire XML file, in case they fail.

But most of the validation rules apply only to the single instrument in an XML file, causing the rejection of just this instrument, in case the validation rule fails.

For every rejected instrument there will be a detailed error message, describing the reason for the error, including a unique error code.

The structure of the error format is described in chapter 5.

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
1.	-	-	XML file is valid and complies with XSD?	1. Raise error 8000 (XML file is invalid / does not comply with XSD), 2. Stop processing XML file
2.	1. message type (1.04) = "NewListing"	(1.04), (5.01.1.1)	ISIN (5.01.1.1) <b>not yet</b> listed at Börse Frankfurt? 1. Cross check with WSS database 2. Query eListing database, check that ISIN has not been sent with message type "NewListing" before	1. Raise error 8001, (ISIN already in use) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
3.	1. Message type (1.04) = "NewListing" and 2. status (1.05) = "indicative" 3. ISSUE_TYPE (5.01.3.20) = "Intraday"	(1.04), (1.05), (5.02.5) (5.01.3.20)	ISIN (5.01.1.1) <b>not yet</b> listed at Börse Frankfurt? 1. Cross check with WSS database 2. Query eListing database, check that ISIN has not been sent with message type "NewListing" before 3. FIRST_TRADING_DATE (5.02.5) >= current date	1. Raise error 8002 (no "intraday issuance"), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
4. (a)	1. message type (1.04) = "UpdateListing"	(1.04), , (5.02.5)	1. ISIN (5.01.1.1) <b>has already</b> been applied for listing at Börse Frankfurt? Cross check with eListing database, if ISIN can be found with message type = "NewListing" previously received. <b>Exclude unsuccessful NewListings, i.e. applications for this ISIN which have been rejected, due to validation errors?</b>	1. Raise error 8003 (instrument unknown or knocked out), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
(b)	1. message type (1.04) = "UpdateListing"	(1.04), , (5.02.5)	1. FIRST_TRADING_DATE (5.02.5) > current date ( i.e. tomorrow, t+1) 2. ISIN was sent as "NewListing" before, <b>including rejected (unsuccessful) listing application</b>	1. Process instrument as "NewListing", i.e. change type (1.04) from "UpdateListing" to "NewListing" and reprocess instrument

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
5.	message type (1.04) = "DeleteListing"	(1.04), (5.02.5)	1. ISIN (5.01.1.1) <b>has already</b> been applied for listing at Börse Frankfurt? Cross check with eListing database, if ISIN can be found with message type = "NewListing" previously received. 2. FIRST_TRADING_DATE (5.02.5) > current date	1. Raise error 8004 (withdraw listing application is not or no longer possible), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
6.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Standard"	(1.05), (5.02.5), (5.01.3.20)	1. FIRST_TRADING_DATE (5.02.5) >= current date ( i.e. tomorrow, t+1)	1. Raise error 8005 (standard update not possible because first trading date was yesterday or even later), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
7.	1. message type (1.04) = "UpdateListing" 2. ISSUE_TYPE (5.01.3.20) = "Intraday"	(1.05), (5.02.5), (5.01.3.20)	1. FIRST_TRADING_DATE (5.02.5) >= current date ( i.e. tomorrow, t+1)	1. Raise error 8006 (intraday update not possible because first trading date was yesterday or even later), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
8.	1. Message type (1.04) = "UpdateListing" and 2. status (1.05) = "indicative"	(1.04), (1.05), (5.02.5)	1. Instrument has not been sent with status (1.05) = "complete" or "trade" before? (Cross check with eListing database.)	1. Raise error 8007 (status model violation, status already higher than indicative), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
9.	1. Message type (1.04) = "UpdateListing" and 2. status (1.05) = "trade"	(1.04), (1.05), (5.02.5)	1. Instrument has not been sent with status (1.05) = "complete" before? (Cross check with eListing database.)	1. Raise error 8008 (status model violation, status already higher than trade), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
10.	-	(3.02)	(Applicant) Name (3.02) <> ""	1. Raise error 0082, 2. Stop processing XML file
11.	-	(4.02)	(Issuer) Name (4.02) <> ""	1. Raise error 0083, 2. Stop processing XML file
12.	-	(5.02.1), (5.01.1.1)	<p>1. ISIN (5.01.1.1) delivered has an associated Frankfurt / Börse Frankfurt MIC code, i.e. MIC_EXCHANGE (5.02.1) IN (XFRA, XFRB, FRAA, FRAB, XSC1, XSC2, XSC3)</p> <p>2. There is <b>exactly one</b> Frankfurt / Börse Frankfurt MIC code (XFRA, XFRB, FRAA, FRAB, XSC1, XSC2, XSC3) per ISIN</p> <p><b>N.b.:</b> Expected behavior will be that there is one XML element (5.02) LISTING for each exchange! Therefore there should <b>only</b> be an <b>error</b> raised in case there is <b>no</b> LISTING (5.02) XML tag with <b>Frankfurt / Börse Frankfurt MIC codes</b> at all.</p>	1. Raise error 8009, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
13.	<p>1. Rule #12 (i.e.: only process data under 5.02 that was positively validated by this rule)</p> <p>2. message type (1.04) = "NewListing" or</p>	(5.02.28)	<p>(Quote Provider)</p> <p>QUOTE_OBLIGOR (5.02.28) &lt;&gt; ""</p>	1. Raise error 8010, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	"UpdateListing"			
14.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing"	(5.02.29)	(Quote Provider Member ID) XETRA_ID_QUOTE_OBLIGOR (5.02.29) IN (ABNLO, BALFR, BEBBL, BFGFR, BHFFR, BNAPA, BOSLO, BVMMU, BZWCX, CBKFR, CENWI, CITFR, CSBLO, DBKFR, DGEFR, DGZFR, EXAPA, GSILO, HELFR, ICFFR, INGAM, JPSLO, JVCZU, LSWST, LSTDU, LSHKI, MACFR, MGILO, MLILO, NOILO, OPFR, RABAM, SKAZH, SOGFR, TDICY, TIMZG, TUBDU, UBWLO, WLBDU)	1. Raise error 0087, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
15.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing"	(5.02.30)	(Quote Provider Subgroup ID) XETRA_SUBGROUP_ID_QUOTE_OBLIGOR (5.02.30) IN (QPR, QPO, QP1, QP2, QP3, QP4, QP5, QP6, QP7, QP8, QP9, QPA, QPB, QPC, QPD, QPE, QPF, QPG, , QPH, QPI, QPJ, QPK, QPL, QPM, QPN, QPO, QPQ, QPS, QPT, QPU, QPV, QPW, QPX, QPY, QPZ)	1. Raise error 0088, (Quote obligor is wrong / invalid) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
16.	1 Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing" 3. TRADING_MODEL (5.02.4) = "Spezialistenmodell"	(5.02.31), (5.02.4)	1. (Specialist KV-Number) SPECIALIST_KV_ID (5.02.31) <> ""	1. Raise error 0089, (KV number is empty) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
17.	1 Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. TRADING_MODEL (5.02.4) = "Spezialistenmodell"	(5.02.31), (5.02.4)	1. (Specialist KV-Number) SPECIALIST_KV_ID (5.02.31) IN (7001, 7003, 7004, 7007, 7009, 7011, 7016, 7017, 7029, 7030, 7036, 7044, 7048, 7050, 7052, 7053, 7054, 7057, 7058, 7060, 7061, 7063, 7065, 7067, 7073, 7079, 7082, 7083, 7084, 7086, 7090, 7093, 7094, 7098, 7100, 7104, 7106, 7107, 7110, 7112, 7115, 7118, 7121, 7125, 7127, 7132, 7142, 7143, 7148, 7150, 7157, 7165, 7168, 7171, 7172, 7173, 7197, 7199, 7206, 7227, 7234, 7237, 7239, 7242, 7247, 7261, 7266, 7267, 7271, 7275, 7276, 7281, 7283, 7291, 7292, 7307, 7319, 7326, 7327, 7328, 7329, 7337, 7339, 7342, 7345, 7346, 7347, 7348, 7357, 7358, 7363, 7381, 7383, 7385, 7396, 7449, 7469, 7473, 7479, 7480, 7505, 7570, 7573, 7620, 7621, 7622, 7623, 7624, 7625, 7626, 7627, 7628, 7629, 7630, 7632, 7633, 7634, 7635, 7636, 7637, 7638, 7640, 7644, 7645, 7646, 7647, 7648, 7649, 7650, 7651, 7652, 7653, 7655, 7656, 7658, 7659, 7670, 7686, 7687, 7689, 7693, 7703, 7705, 7706, 7766, 7781, 7784, 7790, 7791, 7792, 7794, 7803, 7804, 7805, 7806, 7810, 7811, 7812, 7814, 7815, 7816, 7818, 7820, 7821, 7822, 7823,	1. Raise error 8013, (No valid Frankfurt KV number) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
			7825, 7826, 7827, 7831, 7834, 7837, 7839, 7840, 7845, 7846, 7847, 7848, 7849, 7850, 7851, 7852, 7854, 7855, 7858, 7860, 7861, 7863, 7864, 7866, 7867, 7869, 7872, 7873, 7874, 7876, 7879, 7881, 7883, 7886, 7890, 7891, 7892, 7894, 7895, 7897, 7916, 8255, 8265, 8489, 8495, 8578, 8579, 8618, 8619, 8622, 8624, 8636, 8637, 8658, 8700, 8701, 8703, 8707, 8708, 8710, 8713, 8715, 8716, 8717, 8719, 8723, 8725, 8726, 8727, 8728, 8729, 8731, 8732, 8733, 8734, 8735, 8736, 8737, 8739)	
18.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.4)	1. TRADING_MODEL (5.02.4) IN "Spezialistenmodell" AND "Emittentenmodell"	1. Raise error 8011, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
19.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.20)	1. FURTHER_EXCHANGE (5.02.20) IN (Y, N)	1. Raise error 0071 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
20.	1 Rule #12 2. Message type (1.04) = "NewListing" or "UpdateListing"	(5.02.2), (5.02.25)	1. EXPOSE (5.02.25) IN (Y, N)	1. Raise error 0076, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"			
21.	1. Rule #12 2. Message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.26)	1. PROSPECTUS_SUBMITTED (5.02.26) IN (Y, N)	1. Raise error 0077, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
22.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.27), (5.02.20)	1. PROSPECTUS_ADMITTED (5.02.27) IN (Y, N)	1. Raise error 0078 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
23.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr"	(5.02.2), (5.02.20), (5.02.25), 5.02.26), (5.02.27)	1. EXPOSE (5.02.25) or PROSPECTUS_SUBMITTED (5.02.26) or FURTHER_EXCHANGE (5.02.20) or PROSPECTUS_ADMITTED (5.02.27) = "Y". (In other words: at least one of the four data fields must have "Y" as payload).	1. Raise error 8014 (expose, prospectus or further exchange missing) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
24.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.2), (5.02.27)	1. PROSPECTUS_ADMITTED (5.02.27) IN (Y, N)	1. Raise error 0080 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. MARKET_SEGMENT (5.02.2) ="Regulierter Markt"			
25.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing"	(5.02.3)	1. TRADING_SEGMENT (5.02.3) IN ("Börse Frankfurt Standard", "Börse Frankfurt Premium", "Börse Frankfurt Asia", "Börse Frankfurt Premium Asia")	1. Raise error 8012 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
26.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing"	(5.02.10)	1. TRADING_CURRENCY (5.02.10) IN (EUR, CHF, USD, SEK, HKD, CZK, HUF, PLN, GBP, DKK, AUD, CAD, SGD, NOK, TRY, RUB, NZD, CNY)	1. Raise error 0063 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
27.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing"	(5.02.5), (5.01.2.1)	1. FIRST_TRADING_DATE (5.02.5) >= ISSUE_DATE (5.01.2.1)	1. Raise error 0054 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
28.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing" 3. MATURITY (5.01.2.3) <> ""	(5.01.2.2), (5.01.2.3)	1. VALUE_DATE (5.01.2.2) <= MATURITY (5.01.2.3)	1. Raise error 0006 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
29.	-	(5.01.1.1)	1. ISIN (5.01.1.1) occurs only once in -XML file	1. Raise error 0079, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
30.	-	(5.01.3.2)	1. NAME_SHORT (5.01.3.2) <> ""	1. Raise error 0085, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
31.	1. message type (1.04) = "NewListing" or "UpdateListing"	(5.01.3.12)	1. DDV_CATEGORY_NAME (5.01.3.12) IN („Strukturierte Anleihen“, „Kapitalschutz-Zertifikate“, „Discount-Zertifikate“, „Aktienanleihen“, „Express-Zertifikate“, „Bonus-Zertifikate“, „Index-/Partizipations-Zertifikate“, „Outperformance-Zertifikate“, „Sprint-Zertifikate“, „Optionsscheine“, „Knock-Out Produkte“)	1. Raise error 0033, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
32.	1. message type (1.04) = "NewListing" or "UpdateListing"	(5.01.7.1.2)	1. (Underlying) Name (5.01.7.1.2) IN <> ""	1. Raise error 0086, 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
33.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. (5.02.3) = "Börse Frankfurt Standard" OR "Börse Frankfurt Asia"	(5.02.3), (5.02.8)	1. TRADING_HOURS_START (5.02.8) <> ""	1. Raise error 0059 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
34.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.8)	1. TRADING_HOURS_START (5.02.8) >= "09:00"	1. Raise error 0060 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. TRADING_HOURS_START (5.02.8) <> ""			
35.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. (5.02.3) = "Börse Frankfurt Standard" OR "Börse Frankfurt Asia"	(5.02.3), (5.02.9)	1. TRADING_HOURS_END (5.02.9) <> ""	1. Raise error 0061 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
36.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. TRADING_HOURS_END (5.02.9) <> ""	(5.02.9)	1. TRADING_HOURS_END (5.02.9) <= "20:00"	1. Raise error 0062 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
37.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. UNLIMITED (5.01.3.6) = "N"	(5.01.2.3), (5.01.3.6)	1. MATURITY (5.01.2.3) <> ""	1. Raise error 0007 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
38.	1. message type (1.04) = "NewListing" or "UpdateListing"	(5.01.2.3), (5.01.3.6)	1. MATURITY (5.01.2.3) = ""	1. Raise error 0008 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	2. UNLIMITED (5.01.3.6) = "Y"			
39.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. MATURITY (5.01.2.3) <> "" 3. PAYMENT_DATE (5.01.2.4) <> ""	(5.01.2.3), (5.01.2.4)	1. MATURITY (5.01.2.3) <= PAYMENT_DATE (5.01.2.4)	1. Raise error 0009 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
40.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. Rule #12 3. UNLIMITED (5.01.3.6) = "N"	(5.02.6), (5.01.3.6)	1. LAST_TRADING_DATE (5.02.6) <> ""	1. Raise error 0055 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
41.	1. message type (1.04) = "NewListing" or "UpdateListing" 2. Rule #12 3. LAST_TRADING_DATE (5.02.6) <> ""	(5.02.6), (5.01.2.3)	1. LAST_TRADING_DATE (5.02.6) <= MATURITY (5.01.2.3)	1. Raise error 0056 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
42.	1 Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.6), (5.02.5)	1. LAST_TRADING_DATE (5.02.6) >= FIRST_TRADING_DATE (5.02.5)	1. Raise error 0057 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. LAST_TRADING_DATE (5.02.6) <> ""			
43.	1. message type (1.04) = "NewListing" or "UpdateListing"	(5.01.2.1), (5.01.2.2)	1. ISSUE_DATE (5.01.2.1) < VALUE_DATE (5.01.2.2)	1. Raise error 0005 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
44.	1 Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Regulierter Markt"	(5.02.19)	1. DATE_REGISTRATION_APPROVAL_REGULATED_MARKET (5.02.19) <> "" and is a valid date (must be <= ISSUE_DATE (5.01.2.1)).	1. Raise error 0070 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
45.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Regulierter Markt"	(5.02.18)	1. INCLUSION_REGULATED_MARKET (5.02.18) IN (Y, N)	1. Raise error 0069 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
46.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing"	(5.02.17)	1. STATE_BONDS (5.02.17) IN (Y, N)	1. Raise error 0068 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. MARKET_SEGMENT (5.02.2) ="Regulierter Markt"			
47.	1. Rule #12	(5.02.2)	1. MARKET_SEGMENT (5.02.2) IN ("Regulierter Markt", "Freiverkehr")	1. Raise error 8015 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
48.	-	-	1. Application server or its connections, e.g. data base connections, etc. of Börse Frankfurt eListing platform are in healthy condition and in fully operational mode?	1. Raise error 8999 (application error occurred), 2. Stop processing XML file
49.	1. Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing" 3. TRADING_HOURS_START (5.02.8) <> "" 4. TRADING_HOURS_END (5.02.9) <> ""	(1.04), (5.02.8), (5.02.9)	1. TRADING_HOURS_START (5.02.8) <= TRADING_HOURS_END (5.02.9)	1. Raise error 8016 (trading hours end is before start), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
50.	1 Rule #12 2. message type (1.04) ="NewListing" or "UpdateListing"	(1.04), (5.02.6)	1. LAST_TRADING_DATE (5.02.6) >= Today (i.e. last trading date does not lie in the past)	1. Raise error 8017 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	3. LAST_TRADING_DATE (5.02.6) <> ""			
51.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Regulierter Markt"	(1.04), (5.02.2), (5.02.10)	1. TRADING_CURRENCY (5.02.10) = "EUR"	1. Raise error 8018 (TRADING_CURRENCY must be EURO for Regulated Market) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
52.	1. Rule #12 2. message type (1.04) = "NewListing" or "UpdateListing" 3. MARKET_SEGMENT (5.02.2) = "Freiverkehr" 4. INCLUSION_REGULATED_MARKET (5.02.18) <> ""	(1.04), (5.02.2), (5.02.18)	1. INCLUSION_REGULATED_MARKET (5.02.18) = "N"	1. Raise error 8019 (the combination MARKET_SEGMENT = "Freiverkehr" and INCLUSION_REGULATED_MARKET "Y" is invalid) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
53.	1. message type (1.04) = "UpdateListing" 2. instrument <b>has already been exported</b> to Market Supervision - <b>preliminary export</b> (current date/time	(1.04), (5.02.5), <i>Current time</i>	1. Query ELLI database, check that ISIN is known 2. <b>No changes</b> to FIRST_TRADING_DATE (5.02.5)	1. Raise error 8020 (updating first trading date no longer possible because data is already in use at Market Supervision), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
	> original FIRST_TRADING_DATE - 1 / 13:00)			
54.	1. message type (1.04) = "UpdateListing" 2. instrument <b>has already been exported</b> to Market Supervision - <b>final export</b> (current date/time > original FIRST_TRADING_DATE - 1 / 15:30)	(1.04), (5.02.5), <i>Current time</i>	1. Query ELLI database, check that ISIN is known 2. <b>No changes</b> to data that is in the <b>export file to Market Supervision</b> , this applies for the following data fields: 4.02, 5.02.3, 5.01.3.3, 5.02.32, 5.02.13, 5.02.13, 5.02.31, 5.02.29, 5.02.30, 5.02.4, 5.02.8, 5.02.9, 5.02.10, 5.02.5, 5.01.2.2, 3.02, 5.02.28, 5.02.19, 5.02.18, 5.02.17, 5.02.20, 5.02.21, 5.02.27, 5.02.26, 5.02.25, 5.03.6	1. Raise error 8021 (updating data relevant for listing and inclusion no longer possible because application is already in progress at Market Supervision), 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
55.	1. message type (1.04) = ="NewListing" or "UpdateListing"	(1.04), (3.02), (5.02.4), (5.02.29), (5.02.30), (5.02.31),	1. Check if applicant, trading model, quote provider, subgroup and specialist KV number combination is valid (according to the list of rule data, maintained by Market Supervision)	1. Raise error 8022 (applicant, trading model, quote provider, subgroup and specialist KV number combination is invalid. Please contact Market Supervision) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
56.	1. message type (1.04) = ="NewListing" or "UpdateListing"	(1.04), (5.02.3), (5.02.10),	1. The authorization for the use of "Frankfurt Warrants Premium Asia" (field 5.02.3) and settlement currency (field 5.02.10) is checked with the master data table for the relevant quote provider. The value "Frankfurt Warrants Premium Asia" may only be used in field 5.02.3, if currency	1. Raise error 8023 (Frankfurt Warrants Premium Asia may only be used for one of the following currencies: HKD, SGD or AUD. Please contact Market Supervision) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
			HKD, SGD or AUD are used in field 5.02.10.	
57.	1. message type (1.04) = ="NewListing" or "UpdateListing"	(1.04), (5.02.3), (5.02.29)	Quote Provider (xml field 5.02.29) and "Boerse Frankfurt Zertifikate Premium" (xml field 5.02.3) should be checked with the master table. "Börse Frankfurt Zertifikate Premium" can only be used in field 5.02.3, if in the master table the column "Börse Frankfurt Zertifikate Premium" is marked with "yes" for the relevant quote provider.	1. Raise error 8024 ("Boerse Frankfurt Zertifikate Premium" may only be used for issuers flagged as Börse Frankfurt premium issuers. Please contact Market Supervision) 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
58.	1. message type (1.04) = ="NewListing" or "UpdateListing"	(1.04), (5.02.3), (5.02.10)	Quote Provider (xml field 5.02.29) and settlement currency (xml field 5.02.10) should be checked against the master table. If "yes" is not marked for the relevant quote provider and currency, the sender should receive an error message. If the settlement currency is not "EUR", the market segment (5.02.2) has to be "Freiverkehr". Foreign currencies may be used only for Market Segment "Open Market".	1. Raise error 8025 (You may have no permission to use the desired settlement currency or you are using a foreign (non-EUR) currency in regulated market. Non-EUR-currencies are only allowed in open market. Please change your listing application accordingly or contact Market Supervision). 2. Stop processing product (5.x) within XML, i.e. continue with next product (if applicable)
59.	obsolete			

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
60.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Subscription"	(1.04) (5.01.3.20) (5.02.1) (5.02.2)	Subscription is only possible for Open Market Check if Market = "Freiverkehr" And MIC_Exchange = "FRAB"	1. Raise Error 8027 (subscription of instrument only allowed for Open market) 2. Stop processing product within XML, i.e. continue with the next product ( if applicable)
61.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Subscription"	(1.04) (5.01.3.20) (5.02.35) (5.02.36) (5.02.37)	Subscription must have Subscription Start, Subscription End and Technical Suspension fields, filled.	1. Raise Error 8028 (Information on subscription period are missing). 2. Stop processing product within XML, i.e. continue with next product ( if applicable)
62.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Subscription"	(1.04) (5.01.3.20) (5.02.35) (5.02.36)	Subscription End must be after Subscription Start and must happen between 9:00AM and 8:00PM	1. Raise Error 8029 (End of the Subscription period must lie between 9:00AM and 8:00PM and must be after the Start of Subscription period) 2. Stop processing product within XML, i.e. continue with next product (if applicable)
63.	1. Message type (1.04) = "NewListing" or "UpdateListing". 2. Issue type (5.01.3.20) = "Standard" or "Intraday"	(1.04) (5.01.3.20) (5.02.35) (5.02.36) (5.02.37)	When Subscription fields (Subscription Start, Subscription End and Technical Suspension) are filled, issue type must be set to "Subscription"	1. Raise Error 8033 (Issue type "Subscription" is required) 2. Stop processing product within XML, i.e. continue with next product (if applicable)

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
64.	<p>1. Message type (1.04) = "NewListing" or "UpdateListing".</p> <p>2. Issue type (5.01.3.20) = "Subscription"</p>	<p>(1.04)  (5.01.3.20)  (5.02.35)  (5.02.36)  (5.02.37)</p>	Subscription fields (Subscription Start, Subscription End and Technical Suspension) must be on an exchange trading day.	<p>1. Raise Error 8031 (date correlation erroneous-sequential arrangement of Subscription start/end, TECHNICAL SUSPENSION and FIRST TRADING DATE do not fit or dates are not on exchange Trading Day</p> <p>2. Stop processing product within XML, i.e. continue with the next product (if applicable)</p>
65.	<p>1. Message type (1.04) = "NewListing" or "UpdateListing".</p> <p>2. Issue type (5.01.3.20) = "Subscription"</p>	<p>(1.04)  (5.01.3.20)  (5.02.35)  (5.02.36)  (5.02.37)</p>	Technical Suspension must be before First Trading day and after or at subscription End	<p>1. Raise Error 8031 (date correlation erroneous-sequential arrangement of Subscription start/end, TECHNICAL SUSPENSION and FIRST TRADING DATE do not fit or dates are not on exchange Trading Day</p> <p>2. Stop processing product within XML, i.e. continue with the next product (if applicable)</p>
66.	<p>3. Message type (1.04) = "NewListing" or "UpdateListing"</p> <p>4. ASSET_CLASS (5.01.7.1.4) = "Commodities"</p> <p>5. QUOTATION (5.01.3.3) = "Unit"</p>	<p>(1.04)  (5.01.7.1.4)  (5.01.3.3)  (5.01.3.11)</p>	ISSUE_VOLUME (5.01.3.11 ) > 2.500.000 (2,5 Mio units)	<p>1. Raise Error (8035) – Issue Volume exceeds allowed volume for commodities derivatives</p> <p>2. Stop processing product within XML, i.e. continue with next product ( if applicable)</p>

Rule #	(Pre-)Condition	Data field(s)	Validation	Action on FALSE
67.	<ol style="list-style-type: none"> <li>1. Message type (1.04) = “NewListing” or “UpdateListing”</li> <li>2. ASSET_CLASS (5.01.7.1.4) = “Commodities”</li> <li>3. QUOTATION (5.01.3.3) = “Percent”; “Percent flat”; “X-Flat”</li> </ol>	<ol style="list-style-type: none"> <li>(1.04)</li> <li>(5.01.7.1.4)</li> <li>(5.01.3.3)</li> <li>(5.01.3.11)</li> <li>(5.02.13)</li> </ol>	ISSUE_VOLUME (5.01.3.11 ) x MIN_TRADING_UNIT (5.02.13) > 2.500.000 (2,5 Mio units)	<ol style="list-style-type: none"> <li>1. Raise Error (8035) – Issue Volume exceeds allowed volume for commodities derivatives</li> <li>2. Stop processing product within XML, i.e. continue with next product ( if applicable)</li> </ol>

#### 4.1 Processing deadlines

Processing deadlines are implicitly defined by the validation rules detailed above (e.g. rules #3, 5, 7, 53 and 54).

However, issuers may upload “DeleteListing” applications after 15:30, but latest before midnight (24:00) the day before the first trading day.

In that case –according to chapter 4– the delete listing application will be accepted (no error message will be generated). The “DeleteListing” information will be automatically forwarded to and processed by Market Supervision.

## 5 Error messages for issuers

For each input XML file there will be a corresponding error file, to show validation error(s). Even if no error occurred, an error file will be created, then being empty (see example 2).

The error files also have an XML structure and look like the following example:

Example 1: Error.xml file containing validation errors

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ValidationResult>
  <Trancheld>105308</Trancheld>
  <ValidationError>
    <ISIN> DE000ABCD123</ISIN>
    <ErrorCode>61</ErrorCode>
    <ErrorMessage>TRADING_HOURS_END (5.02.9) is empty</ErrorMessage>
    <PathName>/DERIVATEXXL/PRODUCT/LISTING/TRADING_HOURS_END</PathName>
  </ValidationError>
  <ValidationError>
    <ISIN>DE000ABCE123</ISIN>
    <ErrorCode>8009</ErrorCode>
    <ErrorMessage>ISIN has no associated Börse Frankfurt MIC </ErrorMessage>
    <PathName>/DERIVATEXXL/PRODUCT/LISTING/MIC_EXCHANGE</PathName>
  </ValidationError>
</ValidationResult>
```

Example 2: Error.xml file containing no validation errors

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ValidationResult>
  <Trancheld>105309</Trancheld>
</ValidationResult>
```

For each validation error there will be a separate XML element "ValidationError". The payload for the elements inside ValidationError will be:

- PathName: (optional) XPath-like expression to indicate where in the input XML file the error occurred
- ErrorCode: (optional) Error code as defined in chapter 4
- ErrorMessage: (optional) Human readable error text

- ISIN: (optional) ISIN (5.01.1.1)
- TrancheID: TRANCHE\_ID (2.02) of dXXL XML input file

As described above, there are two channels for uploading the XML files, either via the eListing GUI or via secured file transfer. The error XML (output) file will always be presented the same way the (input) XML file has been uploaded before.

This means for input files uploaded via the eListing frontend, the error file will be displayed inside the Börse Frankfurt eListing frontend. If the input file was uploaded via secured file transfer, the error file will be placed in the issuer's "outbound" folder.

There is a naming convention for the error XML files:

ValidationResult\_YYYYMMDD-(Issuer) Name (4.02)\_(TRANCHE\_ID (2.02))\_Original\_XML\_filename.xml

- YYYYMMDD will be replaced with the current date in the format year, month and day.
- (Issuer) Name (4.02) and TRANCHE\_ID (2.02) will be replaced with payload of the corresponding data fields provided in the input XML

**Example:** ValidationResult\_20120604\_122221\_Issuer\_ABC\_(tranche\_105308).xml

Error handling: In case the XML was rejected because of inconsistency to the XSDs, it would not be possible to populate "TRANCHE\_ID (2.02)"

Consequently it would be more difficult for the sender to make the link to the XML file he uploaded.

Therefore in this error case, the original XML filename (without extension) will be concatenated to the file name before the ".xml" extension:

ValidationResult\_YYYYMMDD\_Original\_XML\_filename.xml

## 6 Graphical User Interface (GUI)

The eListing Structured Products system will be available within the DBAG's member section (<https://member.deutsche-boerse.com>). Therefore the user accounts / permissions are handled by the appropriate processes within the SAP Portal system.

In order to invoke eListing, the user must navigate to eListing -> Structured Products and then click on the appropriate link, either to access the production environment or the simulation environment.

The screenshot shows the user interface for eListing Structured Products. At the top, there is a navigation bar with links for 'My Profile', 'Inbox (0)', 'Contacts', and 'Help'. Below this is a main menu with options: 'Technical Connection', 'eXAS - Person Admission & User IDs', 'Invoices & Fee Reports', 'eListing' (which is highlighted), and 'Xetra Resources'. The main content area features the 'eListing Structured Products' title and a brief description: 'Here you can access the web-based tool eListing to provide your applications for inclusion of Structured Products to the Börse Frankfurt Zertifikate AG market place.' Below this is the 'BÖRSE FRANKFURT' logo. Two links are provided: 'The eListing application in production environment can be accessed [here](#)' and 'The eListing application in simulation environment can be accessed [here](#)'. At the bottom, there are links for 'Imprint', 'Data privacy', 'Terms of use', and 'Technical requirements'.

**N.b.:** If the user wants to access the simulation environment it is also necessary to use the simulation member-section (<http://member-test.deutsche-boerse.com/>).

Issuers may contact Börse Frankfurt in order to get access to eListing. Börse Frankfurt will then coordinate all steps necessary for granting access to the issuer's users.

### 6.1.1 Inbox

All valid filings of a product of the XML file upload are shown in the applicant's inbox. There can be multiple records in the inbox depending on the status and message type of the related filing.

The inbox data can be filtered by criteria located at the left side of the page. Additionally the user is able to sort the result list by clicking on the appropriate column header (cycle: ascending, descending, no sorting) and download the data via a CSV file ("Export" button).

Label	Number of dXXL data field	Comment
Upload date	<i>n.a.</i>	System timestamp of upload event (confirmation)
Issue date	5.01.2.1	
First trading date	5.02.5	
Last trading date	5.02.6	
Maturity date	5.01.2.3	
Upload date	1.01	
ISIN	5.01.1.1	
WKN	5.01.1.2	
Issuer Name	4.02	
Underlying ISIN	5.01.7.1.2	1:n relation
Product type	5.01.3.12	
Open/Regulated Market	5.02.2	Valid only for Börse Frankfurt MIC codes (5.02.1)
Trading segment	5.02.3	Valid only for Börse Frankfurt MIC codes (5.02.1)
Tranche ID		
Status	1.05	
Message type	1.04	
Upload ID	<i>n.a.</i>	System generated ID of upload event (confirmation)

The screenshot displays the 'eListing Structured Products' interface. At the top left is the 'BÖRSE FRANKFURT' logo. The main title is 'eListing Structured Products'. On the top right, there are links for 'Refresh user', 'Deutsch', 'Logout', and 'Contact'. Below the title bar, there are tabs for 'Inbox Administration', 'ISIN Detail', 'Listing Application Upload (xml)', and 'Listing Application Upload (xlsx)'. The main content area is divided into two sections: 'Search Criteria' on the left and 'Search results: 17' on the right. The 'Search Criteria' section includes fields for 'Period' (Today), 'From' and 'To' dates, 'Type of date\*', 'Upload date', 'ISIN', 'WKN', 'Issuer name' (Testbank Deutschland AG), 'Underlying ISIN', 'Product type', 'Open / Regulated market', 'Trading segment', 'Tranche ID', 'Status', 'Message type', and 'Upload ID'. A 'Search' button is at the bottom of this section. The 'Search results' section shows a table with 17 rows of data. The table has columns for ISIN, Product type, Issuer name, Validation status, Open / Regulated market, Trading segment, Status, Message type, Upload Date, and Upload ID. The data rows show various ISINs, product types like 'Discount-Zertifikate', 'Bonus-Zertifikate', and 'Aktienanleihen', and issuers like 'Testbank Deutschland AG'. The table is paginated with '1' and '2' visible.

ISIN	Product type	Issuer name	Validation status	Open / Regulated market	Trading segment	Status	Message type	Upload Date	Upload ID
DE9991532605	Discount-Zertifikate	Testbank Deutschland AG	Invalid			trade	NewListing	20.04.2016 14:29:17	153305
DE9991532604	Bonus-Zertifikate	Testbank Deutschland AG	Invalid			trade	NewListing	20.04.2016 14:29:17	153305
DE9991549995	Aktienanleihen	Testbank Deutschland AG	Received	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	NewListing	20.04.2016 14:19:18	153304
DEX991549996	Aktienanleihen	Testbank Deutschland AG	Invalid			trade	NewListing	20.04.2016 14:15:11	153303
DE9991539990	Aktienanleihen	Testbank Deutschland AG	Confirmed	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	NewListing	20.04.2016 13:20:08	153301
DE9991549993	Aktienanleihen	Testbank Deutschland AG	Declined	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	UpdateListing	20.04.2016 10:34:29	153216
DE9991549993	Aktienanleihen	Testbank Deutschland AG	Declined	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	UpdateListing	20.04.2016 10:33:40	153215
DE9991549993	Aktienanleihen	Testbank Deutschland AG	Obsolete	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	NewListing	20.04.2016 10:33:04	153214
DE9991549994	Aktienanleihen	Testbank Deutschland AG	Invalid	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	UpdateListing	20.04.2016 10:31:58	153213
DE9991549994	Aktienanleihen	Testbank Deutschland AG	Confirmed	Freiverkehr	Boerse Frankfurt Zertifikate Premium	trade	NewListing	20.04.2016 10:02:40	153212

### 6.1.2 Transaction details

After clicking one of the ISINs at the result area the detailed listing data is displayed. Some of the fields differ from Open Market to Regulated Market. As stated above, multiple filings for the same ISIN can exist, so only the most recent listing data will be shown.

The following screens show what kind of information will be displayed on the transaction details windows for Open and Regulated Market.

Open Market:

---

Regulated market:

**BÖRSE FRANKFURT** **eListing Structured Products** Refresh user  
Deutsch  
Logout  
Applicant ▾ User ▾ Contact ▾

[Inbox](#) [ISIN Detail](#) [Listing Application Upload \(xml\)](#) [Listing Application Upload \(xlsx\)](#)

Details for ISIN : DE9991549986

**Listing Data** | History | Applicant Data | Final Terms

Issuer	Testbank Deutschland AG	Currency unit	EUR
Quote Provider	111111	Minimum trading size	1
Quote Provider Member ID	JVCZU	1st exchange trading date	25.04.2016
Quote Provider Subgroup ID	QPR	Value date	01.05.2016
Specialist KV-Number	7805	ISIN	DE9991549986
Trading Model	Spezialistenmodell	Product name issuer	Protect 4,05% Kupon Anleihe auf Bayer
Single Auction	3	Product type	Aktienanleihen
Date of admission	22.02.2016	Trading hours start	9 : 00
Inclusion according to §33(1) BörsG, §73(1) BörsO FWB	<input checked="" type="checkbox"/>	Trading hours end	20 : 00
Admission by virtue of law according to §37 BörsG	<input type="checkbox"/>	Maturity	24.03.2017
Collective safe custody (CBF)	<input checked="" type="checkbox"/>	Last trading day	17.03.2017
Quality Segment	Boerse Frankfurt Zertifikate Premium	Tranche ID	
Quotation type	Percent flat	Message type	UpdateListing
		Status	trade
		Issue type	Standard
		Underlying ISIN	Bayer AG
		Open / Regulated market	Regulierter Markt
		Private placement	<input type="checkbox"/>
		Open end instrument	<input type="checkbox"/>

The transaction history is presented on the second tab. For each (confirmed) filing of an application XML file the status, message type and upload date is shown. Additionally, the original input file and the processed error file are available for download.

The screenshot shows the 'eListing Structured Products' interface. At the top left is the 'BÖRSE FRANKFURT' logo. The main title is 'eListing Structured Products'. On the top right, there are links for 'Refresh user', 'Deutsch', 'Logout', 'Applicant', 'User', and 'Contact'. Below the title bar, there are tabs for 'Inbox', 'ISIN Detail', 'Listing Application Upload (xml)', and 'Listing Application Upload (xlsx)'. The main content area is titled 'Details for ISIN : DE9991549986' and contains sub-tabs for 'Listing Data', 'History', 'Applicant Data', and 'Final Terms'. The 'History' tab is active, displaying a table with the following data:

Validation status	Status	Message type	Upload Date	Uploaded By	Input file	Error file
Invalid	trade	UpdateListing	20.04.2016 16:42:09	Amanda S	<a href="#">XLSX</a>	<a href="#">Error file</a>
Received	trade	UpdateListing	20.04.2016 16:40:40	Amanda S	<a href="#">XLSX</a>	<a href="#">Error file</a>
Confirmed	trade	UpdateListing	20.04.2016 16:39:30	Amanda S	<a href="#">XLSX</a>	<a href="#">Error file</a>
Obsolete	trade	NewListing	20.04.2016 16:35:25	Amanda S	<a href="#">XLSX</a>	<a href="#">Error file</a>

Below the table, it says 'Processed: No'.

### 6.1.3 Listing application upload

After selection of an appropriate XML file (using system standard browsing functionality) and accepting the general terms and conditions the applicant can file the application.

Link to the general terms and conditions:

English language version:

<http://www.zertifikate.boerse-frankfurt.de/en/about-us/warrantsexchange/admission-regs#open%20market>

German language version:

<http://www.zertifikate.boerse-frankfurt.de/de/ueber-uns/zertifikateboerse/zulassung-regelwerk#freiverkehr>

The screenshot shows the 'eListing Structured Products' interface. At the top left is the 'BÖRSE FRANKFURT' logo. The main title is 'eListing Structured Products'. On the top right, there are links for 'Refresh user', 'Deutsch', 'Logout', 'Applicant', 'User', and 'Contact'. Below the title bar, there are tabs for 'Inbox', 'Listing Application Upload (xml)', and 'Listing Application Upload (xlsx)'. The main content area is titled 'File to upload' and contains a 'Browse...' button. Below the button, there is a checkbox with the text: 'We confirm acceptance of the General Terms and Conditions of the Börse Frankfurt Zertifikate AG for the trading with Structured Products in the Regulated Unofficial Market on the Frankfurt Stock Exchange in the relevant version and / or of the Exchange Rules for the Frankfurt Stock Exchange in the relevant version.\*'. Below the checkbox is a 'File Application' button.

### 6.1.4 Validation result

After the upload of the file the system will process the content. If a critical error occurs the

processing will be stopped, the application declined and the related error information displayed as a modal dialogue window. A critical error is any action called “Stop processing XML file” derived from the validation rules in chapter 4.

If the file could be processed without any critical errors the result of the file validation will be shown to the customer. Header information fields are date of upload, the total number of ISINs within the application file and the number of accepted ISINs from this file. The Upload ID will be generated after the confirmation of the filing.

In case that not all ISINs were accepted the refused ISINs are presented in a table. The last column “Reason” offers a link that displays the error information (see chapter 5) in a modal dialogue window.

The user has to confirm or decline the application to finish the application filing. The options vary whether there were accepted ISINs or not.

Number of accepted ISINs = 0:

Button “Confirm application” inactive / invisible

Number of accepted ISINs > 0:

Button “Confirm application” active / visible

Number of refused ISINs = 0:

Table “Refused ISINs” empty and not visible

Button “Download Error.xml file” inactive and not visible

Number of refused ISINs > 0:

Table “Refused ISINs” contains records and is visible

Button “Download Error.xml file” active and visible

**scoach** BY SIX AND DEUTSCHE BÖRSE

**E-Listing Scoach**

Deutsch  
Logout

Applicant ▾ User ▾ Contact ▾

Inbox Listing Application Upload **Upload Result**

**Result of file validation**

Date of upload	09.07.2012 11:15:06
Upload ID	1161
Total number of ISINs	3
Number of accepted ISINs	3
Status	complete
Message Type	NewListing
Tranche ID	123456

**Refused ISINs (0)**

Confirm Application Decline Application [Download Error.xml file](#)

**scoach** BY SIX AND DEUTSCHE BÖRSE **E-Listing Scoach** Deutsch Logout  
Applicant User Contact

Inbox ISIN Detail Listing Application Upload **Upload Result**

**Result of file validation**

Date of upload	09.07.2012 10:56:48
Upload ID	561
Total number of ISINs	3
Number of accepted ISINs	0
Status	complete
Message Type	NewListing
Tranche ID	123456

**Refused ISINs (3)**

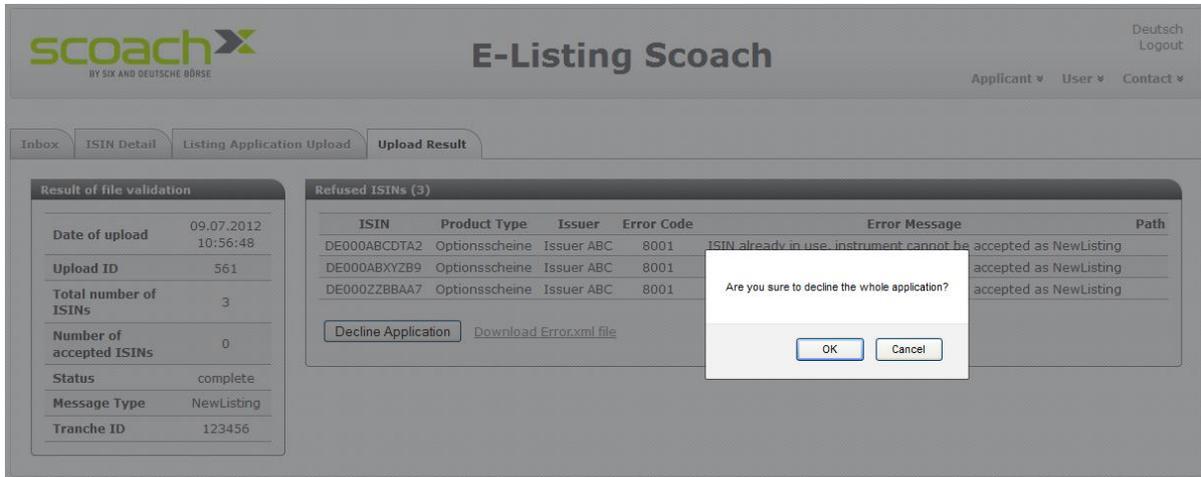
ISIN	Product Type	Issuer	Error Code	Error Message	Path
DE000ABCDTA2	Optionsscheine	Issuer ABC	8001	ISIN already in use, instrument cannot be accepted as NewListing	
DE000ABXYZB9	Optionsscheine	Issuer ABC	8001	ISIN already in use, instrument cannot be accepted as NewListing	
DE000ZZBBA7	Optionsscheine	Issuer ABC	8001	ISIN already in use, instrument cannot be accepted as NewListing	

[Decline Application](#) [Download Error.xml file](#)

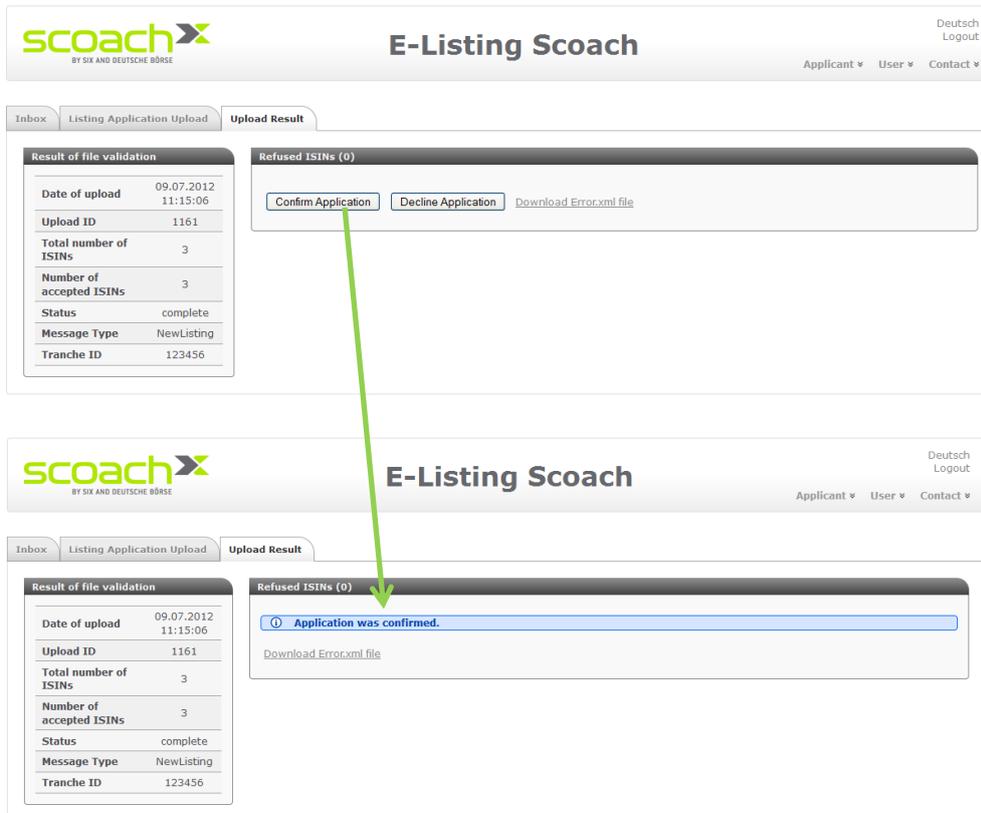
Opening ValidationResult\_20120709\_105649\_IssuerABC...  
You have chosen to open  
...t\_20120709\_105649\_IssuerABC\_(tranche\_123456).xml  
which is: Extensible Markup Language (873 bytes)  
from: http://prgapp.deutsche-boerse.de:8080  
What should Firefox do with this file?  
 Open with: Altova XMLSpy 2012 (default)  
 Save File  
 Do this automatically for files like this from now on.  
OK Cancel

```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
2 <ValidationResult>
3   <TrancheId>123456</TrancheId>
4   <ValidationError>
5     <ISIN>DE000ABCDTA2</ISIN>
6     <ErrorCode>8001</ErrorCode>
7     <ErrorMessage>ISIN already in use, instrument cannot be accepted as NewListing</ErrorMessage>
8     <PathName></PathName>
9   </ValidationError>
10  <ValidationError>
11    <ISIN>DE000ABXYZB9</ISIN>
12    <ErrorCode>8001</ErrorCode>
13    <ErrorMessage>ISIN already in use, instrument cannot be accepted as NewListing</ErrorMessage>
14    <PathName></PathName>
15  </ValidationError>
16  <ValidationError>
17    <ISIN>DE000ZZBBA7</ISIN>
18    <ErrorCode>8001</ErrorCode>
19    <ErrorMessage>ISIN already in use, instrument cannot be accepted as NewListing</ErrorMessage>
20    <PathName></PathName>
21  </ValidationError>
22 </ValidationResult>
23
```

If the user chooses to decline the application, a confirmation dialogue will appear (modal). The answer "OK" will reject the application and lead the user back to the "Listing Application Upload" page. "Cancel" will end the modal dialogue and the user stays at the validation page.



In case the applicant wants to confirm the listing application and there is at least one instrument within the listing application that was validated correctly, both buttons “Confirm application” and “Decline application” will be active and visible.



In any case there will be an “Upload ID” generated and displayed on the result page.

## 7 Unattended secured XML file transfer solution for issuers

Issuers will be able to upload their listing application XML files via a secured file transfer solution. This file transfer may be setup in the issuers back office for unattended up- and download XML files to and from the Börse Frankfurt eListing servers.

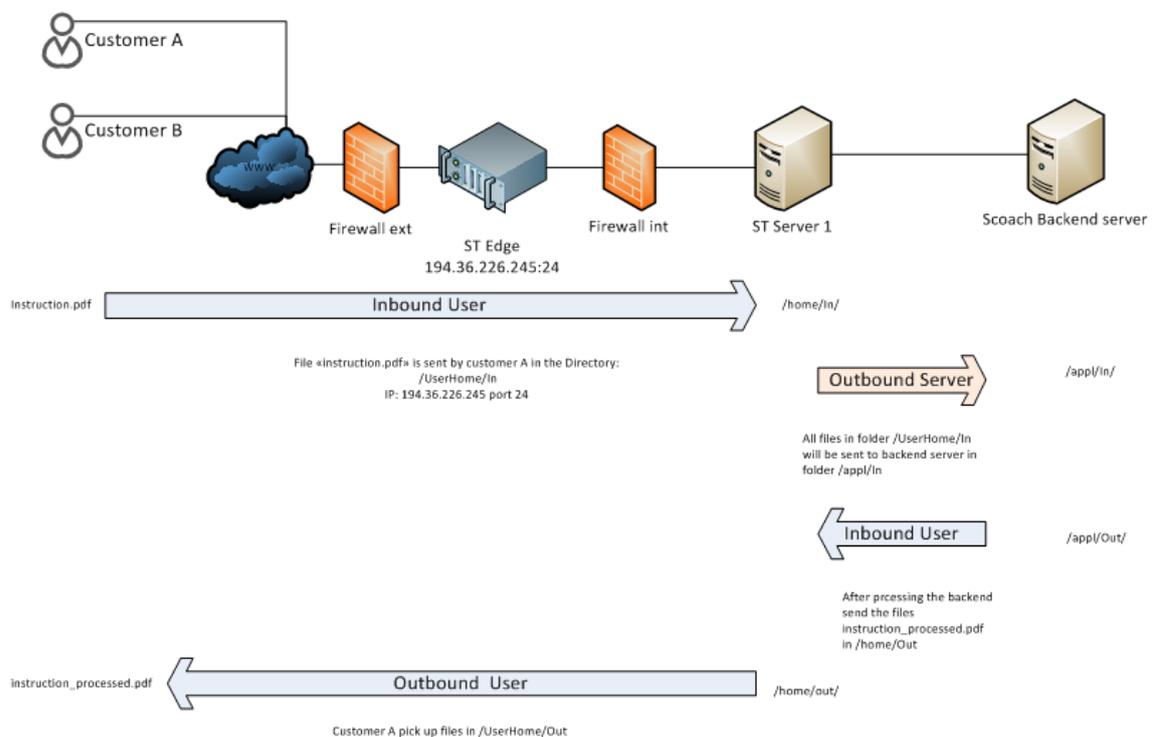
This solution is based on an existing secure file upload platform already in use by Clearstream Luxembourg. This solution supports the following protocol:

- SSH-FTP (SSH or SFTP or SCP) with mandatory public / private key authentication

FTPS and HTTP are currently not available because both require certificates generated by a CA.

Clearstream's servers (ST Edge) for this solution are reachable via the internet but reside behind a firewall. The post processing of XML files will take place in the secure zone. XML files will not be persisted permanently in the DMZ.

The network architecture draft is shown below:



There are two environments available for issuers, one production and one simulation environment.

Simulation will be available for issuer's testing purposes. Issuers should check the availability of the simulation environment with Börse Frankfurt at an early stage before testing.

The ST Edge servers can be reached with the following parameters:

Environment	IP address : port	Supported protocols
Simulation (Test)	194.36.239.249:24	SSH-FTP
Production	194.36.239.250:24	SSH-FTP

In order to use the secure file transport solution, each issuer must fulfil the following prerequisites:

- sign a "terms of use" contract with Börse Frankfurt
- provide a public RSA key with exactly 2048 Bit key length for **each** environment
- File name(s) must **not** contain space character(s)

**!** You may consider using keys which are valid for 12 months only and replacing them accordingly. However Börse Frankfurt will not monitor key validities. Managing the keys is within the sole responsibility of each issuer, e.g. issuers need to provide Börse Frankfurt with the new keys in a timely manner prior to their expiry. Börse Frankfurt will not be liable for wrongly managed or corrupted RSA keys.

Once all setup steps have been accomplished, the process flow for unattended secure XML file transfers is as follows:

- issuer establishes connection to the ST Edge server, with mandatory certificate authentication (no password)
- issuer uploads one or more XML files onto his personal upload (Inbound) folder (*//Issuers\_root\_directory/IN/*).
- Technical acknowledgement after successful file transfer will be indicated by archiving the transferred files: After a successful file transfer - both outbound and inbound - to and / or from the issuer's personal folders, an archive copy with a timestamp will be made of the transferred file. These archive copies will be stored in dedicated personal sub-folders.
- Issuers may check their archive folders to make sure the file upload has finished

successfully. (If connection was closed, the issuer must establish it again before checking)

- after having processed the input XML file(s), the eListing platform will generate and place (asynchronously) error XML file(s) into issuer's personal download (outbound) folder (*//Issuers\_root\_directory/OUT/*).  
N.b.: For each input file there will be exactly one "error.xml" file with filenames described in chapter 5.
- Issuer must then poll for "error.xml" file(s) and download them accordingly. (If connection was closed, the issuer must establish it again before checking)
- the error XML file(s) must then be processed by the issuer to handle errors that occurred
- "Housekeeping" of the XML file(s) is within the responsibility of the issuer, e.g. the issuer may delete files which have been successfully downloaded

**Please note:**



- In case of (validation) error(s), it is the issuer's responsibility to resend a corrected version of the XML listing application. Issuers may only assume that a particular XML listing application has been technically accepted, if the corresponding error.xml (see chapter 5) showed no errors.



- In order to ensure that every XML listing application has been technically accepted, issuers must keep record about all XML listing applications (files and instruments) and their error.xml return values.
- SFTP enables users to stay connected whereas SCP will invoke new sessions for each operation.
- SFTP will also give more functionality (commands) compared to SCP, e.g. "get" and "rm"
- Issuers who want to transfer many XML files every day may consider to use SFTP because there will be less protocol overhead and system load

## **8 Migration steps / how to become Börse Frankfurt eListing user**

In order to become Börse Frankfurt eListing user, issuer's need to undertake certain migration steps (from the old listing application to Börse Frankfurt eListing for supported product categories).

These activities should be organized in a mutual migration project between the issuer and Börse Frankfurt.

The following mile stones may apply as blue print for these migration projects:

- Issuer informs Börse Frankfurt that he wants to become Börse Frankfurt eListing user
- Börse Frankfurt and Issuer check together whether Issuer uses the most recent documents (XSDs and process and interface description)
- Joint project plan for migration project is established
- "Terms of use" document is signed by issuer and Börse Frankfurt
- Börse Frankfurt eListing users are set up (for both environments), including GUI and SFTP user(s)
- Successful SFTP connection and full processing test on both environments
- Issuer executes test cases on Börse Frankfurt eListing testing environment
- XML format validity is testified by Börse Frankfurt
- Listing application validity is testified by Börse Frankfurt
- Joint declaration of successful testing
- Date for switching over to XML listing application delivery in production is fixed, issuer assures parallel creation and 'on demand' delivery of old format for ~4 weeks
- Issuer and Börse Frankfurt are executing going live of XML listing applications and monitor eListing closely for about ~2 weeks after going live