T7 Release 9.1

Final Release Notes

for the Trading Venues Xetra and Börse Frankfurt

Version   1.2

Date   15 April 2021

Content

1. Overview of T7 Release 9.1

Deutsche Börse AG is planning to launch T7 Release 9.1 on 28 June 2021.

The following diagram gives an overview of the introduction schedule:
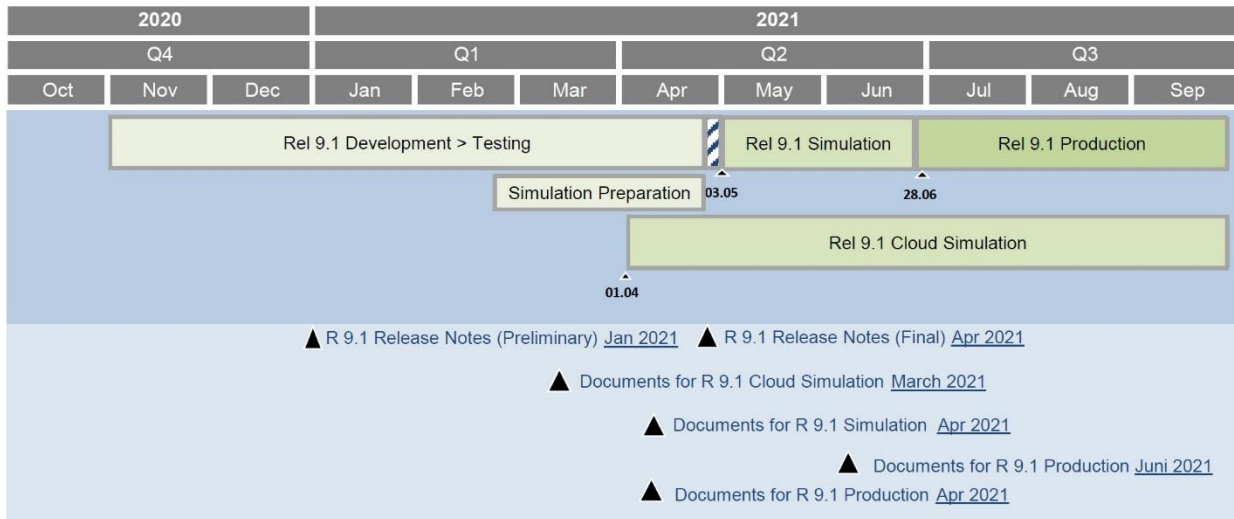
Deutsche Börse AG provides a dedicated release simulation environment in order to give trading participants the opportunity to perform comprehensive testing of their trading applications, independent from the T7 production environment. The simulation period for T7 Release 9.1 is planned to start on 03 May 2021.

In addition, and prior to the T7 release simulation, Deutsche Börse AG offers a T7 Release 9.1 Cloud Simulation to allow trading participants and Independent Software Vendors (ISVs) to test the T7 Release 9.1 ETI and FIX Gateway as well as RDI, MDI, EMDI and EOBI interface changes. In the Cloud Simulation, participants can initiate predefined market scenarios and test specific strategies more easily than in a shared environment. The Cloud Simulation is available around the clock for a fixed price per hour and started on 25 March 2021.

For more information on the T7 Cloud Simulation, please refer to http://www.xetra.com/xetra-en/technology/t7/cloud-simulation.

1.1 New Features and Enhancements Overview

The following new features and enhancements will be introduced with T7 Release 9.1:

	Relevant for	
	T7 Xetra	T7 Börse Frankfurt
Self-Match Prevention for Iceberg and Volume Discovery Orders	x	
Instrument Covers for Börse Frankfurt Zertifikate		x
Introduction of the *Continuous Auction with Market Maker* trading model in BFZ with Indicative Quotes		x
Further changes and enhancements	x	x

Note on Interfaces

T7 Release 9.1 will provide backwards compatibility for the T7 ETI/FIX interface version 9.0, i.e. participants who do not want to use the new functionality will still be able to connect to T7 with the interface layout version 9.0, even after the production launch of T7 Release 9.1.

Public market data interfaces, including RDI/RDF, as well as reports and data files, will not provide backwards compatibility.

1.2 Further Reading

The existing documents have been or will be revised for T7 Release 9.1. The following table provides an overview of the schedule for the publication:

T7 Release 9.1	Derivatives Markets	Cash Markets	Combined	Q1 / 2021 Jan	Feb	Mar	Q2 / 2021 Apr	May	Jun
T7 Release 9.1 - Release Notes	X	X		◆			●		
T7 Functional Reference			X				●		
T7 Functional and Interface Overview			X				●		
T7 Participant Simulation Guide			X				●		
T7 Cross System Traceability			X				●		
T7 Incident Handling Guide			X				●		
T7 Participant and User Maintenance Manual	X	X					●		
Contract Notes Description		X							●
T7 Known Limitations			X				■		●
T7 Trader, Admin and Clearer GUI – User Manual	X	X					■		●
T7 Trader, Admin and Clearer GUI – Installation Manual			X				●		
T7 Enhanced Trading Interface – Manual incl. XSD, XML Representation and Layouts			X			◆	■		●
T7 FIX Gateway – FIX 4.2 and 4.4 Manual incl. Fiximate and Repository			X			◆	■		●
T7 Market, - Enhanced Order Book- and Reference Data Interfaces Manual incl. Fast Message Template, Repository & FIXML Schema Files			X			◆	■		●
T7 Extended Market Data Services – Manual incl. Fast Message Template and Underlying Ticker Data			X				■		●
Cash Market Instrument Reference Data Guide		X					●		
T7 XML Report Reference Manual			X				■		●
Common Report Engine User Guide			X				●		
N7 Network Access Guide			X				●		
Exchange Rules & Regulations		X							●
Market Models		X							●

◆ Cloud Simulation / Prelim. Version   ■ Simulation Version   ● Production / Final Version

Please note that the outlined schedule is subject to change.

The documents will be available on the Xetra website www.xetra.com under the path:

> Technology > T7 Trading Architecture > System Documentation > Release 9.1

1.3 Contacts

If you have any questions or require further information, please contact your Global Key Account Manager Trading. Alternatively, please contact your Technical Key Account Manager using your VIP number or via e-mail to: cts@deutsche-boerse.com.

1.4 Definitions and Abbreviations

Term/Abbreviation	Description
BFZ	Börse Frankfurt Zertifikate AG is a subsidiary of Deutsche Börse AG. The marketplace offers trading in certificates, warrants and reverse convertibles.
Börse Frankfurt	Trading venue of FWB, where equities, bonds, ETFs, ETCs, ETNs and funds are traded.
BU	Business Unit
CRE	Common Report Engine
DBAG	Deutsche Börse AG
EMDI	T7 Enhanced price level netted Market Data Interface
EOBI	T7 Enhanced Order Book Market Data Interface
ETI	T7 Enhanced Trading Interface
FIX	Financial Information eXchange (portal)
FWB	Frankfurter Wertpapierbörse
GUI	Graphical User Interface
MDI	T7 netted price level aggregated Market Data Interface
RDF	T7 Reference Data File
RDI	T7 Reference Data Interface
SMP	Self-Match Prevention
T7	T7 is the trading architecture developed by Deutsche Börse Group
TES	T7 Entry Service
XETR	Market Identifier Code (MIC) of trading venue T7 Xetra
XFRA	Market Identifier Code (MIC) of trading venue T7 Börse Frankfurt including Börse Frankfurt Zertifikate

2. Self-Match Prevention for Iceberg and Volume Discovery Orders

Starting with T7 Release 9.1, T7 Xetra will offer Self-Match Prevention (SMP) for Iceberg Orders and Volume Discovery Orders.

2.1 Functional Description

The processing of Iceberg Orders with SMP and of Volume Discovery Orders with SMP will be basically the same.

2.1.1 Iceberg Orders

For incoming Iceberg orders, the full quantity – display and hidden – will be taken into consideration during the SMP processing, essentially treating it like a regular order with SMP. In case of a match prevention due to SMP, the remainder of the order will be cancelled once orders on that price step have been processed.

For resting Iceberg orders, the display quantities will be cancelled in case of SMP processing. The same quantity will also be cancelled from the incoming order. If this will result in a display quantity of zero for a resting Iceberg order and potentially more quantity could be executed but will be prevented due to SMP, that quantity will be cancelled from the hidden part following the peak refill rules.

2.1.2 Volume Discovery Orders

For Volume Discovery orders, basically the same rules apply as for Iceberg orders as described above, whether for incoming VDO orders or for resting VDO orders.

Please note that SMP will not be availble for the midpoint matching of Volume Discovery Orders.

2.2 Impact on Interfaces

There will be no impact on interfaces.

3. Instrument Covers for Börse Frankfurt Zertifikate

Currently, instrument covers ("Hüllen") are listed as regular instruments that cannot be changed intraday. They are identifiable by trading participants in all RDF files with/via the securitySubType (value 20 and 30).

With T7 Release 9.1, issuers will be enabled to list intraday and long-term instrument covers on T7 Börse Frankfurt for BFZ as actual intraday or long-term covers, being identifiable via a dedicated reference data field *Cover Indicator*. As long as the *Cover Indicator* points to an intraday or long-term cover, the instrument will not be tradeable in T7, but available in the reference data. Covers will become tradeable only and immediately upon the activation by the issuer, who will be able to update certain instrument attributes denoted as *Adjustable Cover Attributes* with the activation. Trading participants will be informed of the activation via an RDI incremental message and an RDF incremental file, which will list potentially changed instrument attributes and via MDI and EOBI about the instrument state change to Pre-Call.

3.1 Functional Description

3.1.1 Cover Characteristics

Cover instruments are supported only for cash markets in the trading model *Continuous Auction with Specialist*. Currently, they will be only used by BFZ and will be of security type *Warrant*.

All T7 cash instruments will get a new reference data attribute with the name *Cover Indicator* reflecting the following states:

- No cover
- Intraday cover
- Long-term cover
- Activated cover

On activation of a cover instrument, the *Cover Indicator* will be changed to activated and the *First Trading Date* will be set to the current business day. An instrument that is not initially listed as a cover will have the attribute *No Cover*. An activated cover will never be reverted to a cover.

The *Adjustable Cover Attributes* will be:

- Description
- Underlying
- Maturity Date
- Strike Price
- Coupon Rate
- First Trading Date
- Last Trading Date
- Start of Quoting Period
- End of Quoting Period

When a cover is activated, the *Cover Indicator* will also be changed to *Activated Cover*.

3.1.2 Cover Activation – Timeline

An activation of a cover will only be supported for Börse Frankfurt Zertifikate between 8:00 a.m. and 8:45 p.m. Frankfurt time. Any activations after that point in time will be queued for the next business day to ensure an appropriate processing in synchronization of all technical systems involved.

There will be impact on Market Data and Reference Data interfaces. Please note that the Incremental RDI messages will be a new feature in the Cash RDI and will not be used for non-covers. Further information and best practices for implementation can be found in the *Market and Reference Data Interfaces* manual. They are available on the Xetra Web site for Release 9.0 and will become available for Release 9.1 as outlined in the communication calendar:

> Technology > T7 Trading Architecture > System Documentation

> Release 9.1 > Market and Reference Data Interfaces

3.2 Impact on Interfaces

The following chapter outlines the changes to the interfaces supporting the functionality. The changes are described in a general fashion to provide an indication of the upcoming amendments. For detailed changes, please refer to the upcoming versions of the interface manuals.

3.2.1 Reference Data

The Cover Indicator will be provided along with other reference data, but reference data files will show no update intraday.

3.2.2 Market Data

A retransmission service is generally not provided for MDI/EOBI, and therefore a message about an intraday activation of a cover may get lost.

3.2.2.1 MDI

The following enhancements will be introduced:

- The *Security Status* will be set to "Inactive" when the *Cover Indicator* is "Intraday" or "Long-term".
- On activation of a cover, the Security Status "Active" will be published. The *Cover Indicator* will be "Activated", then.

3.2.2.2 EOBI

The following enhancements will be introduced:

- The *Security Status* will be set to "Inactive" when the *Cover Indicator* is "Intraday" or "Long-term".
- On the activation of a cover, the Security Status "Active" will be published. The *Cover Indicator* will be "Activated", then.

4. Introduction of the *Continuous Auction with Market Maker* trading model in BFZ with Indicative Quotes

During T7 Release 9.1, the *Continuous Auction with Market Maker* trading model will be reintroduced for BFZ. As an additional functionality, Quote Providers may provide non-binding quotes to the market by newly introduced Indicative Quotes. Indicative Quotes will become available with instruments traded in trading model *Continuous Auction with Market Maker*. In the reference data the information whether Indicative Quotes are supported will not be available. The information will be communicated via a circular or an implementation news.

4.1 Functional Description

For detailed information about the *Continuous Auction with Market Maker* trading model see the *T7 Functional Reference*, available on the Xetra website for Release 9.0 and available for Release 9.1 as outlined in the communication calendar:

> Technology > T7 Trading Architecture > System Documentation

> Release > Overview and Functionality

Indicative Quotes will be entered by Quote Providers with bid and ask quantities like Standard Quotes and will have the same effects as Standard Quotes, i.e. providing the spread within full execution of customer orders can take place, with the exception that Indicative Quotes will never be involved in any matching themselves. Indicative quotes will be published in market data depending on the transparency.

Matching quotes will be deleted after a price determination or the expiry of an auction. Standard and Indicative quotes will not be deleted on these occasions.

The *Continuous Auction with Market Maker* trading model will only support one quote per instrument at the same time. Therefore, an Indicative Quote will overwrite any existing quote, including Standard Quotes, without further notification.

4.2 Impact on Interfaces

The following chapter outlines the changes to the interfaces supporting the functionality. The changes are described in a general fashion to provide an indication of the upcoming amendments. For detailed changes, please refer to the upcoming versions of the interface manuals and to the *Online Help* in the GUIs.

4.2.1 Market Data

Indicative Quotes will be published via market data like Standard Quotes: With price and with quantity via MDI and EOBI.

4.2.2 ETI

In ETI, the *Single Quote* request and *Mass Quote* request will reflect the new quote type with a new valid value to indicate Indicative Quotes.

4.2.3 GUI

Please note, that like for Standard Quotes, the entry of Indicative Quotes will not be possible via GUI.

4.2.4 XML Reports

After the introduction of T7 Release 9.1, the following new Performance Measuring reports will become available for Quote Providers in the trading model *Continuous Auction with Market Maker:*

- PM910 Issuer Fulfillment Aggregated
- PM920 Issuer Fulfillment Instrument Level
- PM930 Issuer Performance per Executed Order

Once instruments will be listed in the *Continuous Auction with Market Maker* trading model, these reports will become available.

5. Further Changes and Enhancements

5.1 New *reason code* for order rejection in Extended Vola Freeze

For the rejection of order entries and modifications in a Freeze phase of an Extended Volatility Interruption, a new *reason code* for the rejection will be introduced in ETI and FIX Gateway: Order not accepted in Volatility Freeze.

5.2 Stepwise Introduction of the FIX LF Interface

As announced, the new FIX LF interface and associated FIX LF sessions will be introduced step by step. The new FIX LF interface will make use of the FIX 4.4 protocol only and will be integrated closer into the T7 architecture by providing similar underlying infrastructure and functional / technical characteristics as the existing ETI interface, e.g. backward compatibility. The new FIX LF interface will initially be offered in parallel to the existing FIX Gateway interface and will, after a transition period, ultimately replace the existing FIX Gateway interface.

No immediate action from participants is required for the introduction of T7 Release 9.1. However, participants with back-office sessions via the existing Eurex FIX Gateway interface should be aware that support for these sessions will stop to be provided at a point in time *before* the launch of T7 Release 10.0. Existing applications must be adapted to use the new FIX LF interface at the earliest possible opportunity. Participants using FIX version 4.2 must also ensure that their applications are adapted to FIX version 4.4. The exact transition dates will be communicated separately.

5.3 Changes in User PIN displayed in XML Reports RD110 and RD115

The two reports RD110 *User Profile Maintenance* and RD115 *User Profile Status* will show any changes of a User PIN respectively the status of a User PIN without disclosing the PIN itself.

- **Report RD110 *User Profile Maintenance:*** On any change of the PIN, the fields *audtValBefore* and *audtValAfter* will be filled with "****", and the field *updtFldNam* will contain "pinCode". Only when the PIN is defined for the very first time, the field *audtValBefore* will be filled with spaces.
- **RD115 *User Profile Status:*** There will be a new field *pinCode* of format alphanumeric 4. If a PIN is set, it will display "****". If no PIN is set, it will display spaces.

5.4 Direct change from Knocked-Out to Knocked-Out-Locked

With T7 Release 9,1, it will be possible to change directly from *Knocked-Out* to *Knocked-Out-Locked*. This will be available in the trading model *Continuous Auction with Specialist* as well as in the trading model *Continuous Auction with Market Maker*. It will not be necessary anymore to go via *Knock-Out-Reverted* to reach *Knock-Out-Locked*.

5.5 New report PM900 Specialist Performance per Executed Order

After the introduction of T7 Release 9.1, the new report PM900 *Specialist Performance per Executed Order* will become available. The report will reflect all executed orders for a specialist of one business day in all instruments traded in the trading model *Continuous Auction with Specialist*. On single order level the duration of the executability and of the BFZ Commitment Conditions fulfillment will be displayed.

The exact date when the report will become available will be communicated by a circular.

5.6 Quote ID for the Quote Request Solution now of length 8

WithT7 Release 9.1, the maximum accepted length of the Quote ID for the Quote Request Solution (QRS) in the trading model *Continuous Auction with Specialist* will be increased from a length of 6 to a length of 8 throughout the whole system.

In the report TC540 Daily Order Maintenance the respective field *qrsQuoteId* will be increased in length to numeric 8. No other interface changes are required.

5.7 Replicate information from DSCP flag in EOBI packet header

The DSCP flag in the packet header of EOBI market data was introduced last year to support efficient transaction processing. With T7 Release 9.1, this information will be replicated in the EOBI Packet Header message simplifying the processing (e.g. storage) of EOBI data along with the DSCP flag information, e.g. for back testing. Please note that the DSCP flag is not set in case of a quote update.

6.   Change log

No	Date	Log entry
1.2	15 April 2021	Final for publication.