
1 General Features of T2S

1.1 T2S Features Overview

1.1.1 Settlement

1.1.2 Liquidity management

1.1.3 Information Management

1.1.4 ReferenceStatic Data management

T2S relies on the Common Reference Data Management (CRDM) component to ~~provides a Static Data management feature that~~ allows all T2S Actors to create and maintain ReferenceStatic Data in T2S for the configuration of data related to parties, securities, securities accounts, T2S dedicated cash accounts and T2S rules and parameters.

The following list shows the main configuration areas for ReferenceStatic Data in T2S:

- | Parties reference data;
- | Securities reference data;
- | Securities accounts reference data;
- | T2S dedicated cash accounts reference data;
- | Access rights management;
- | Message subscription configuration;
- | Network configuration;
- | Reports configuration;
- | Attribute domains management;
- | Business Day ManagementScheduling configuration;
- | Market-specific attributes configuration;
- | Restriction types management;
- | Conditional securities delivery configuration;
- | Billing configuration;
- | Configuration parameters. ¹

[...]

28

¹ This area includes reference data for countries, currencies, partial settlement thresholds, system entities, tolerance amounts, T2S BIC directory.

1 1.1.5 Operations and Support

2 1.1.5.1 Business application configuration

3 1.1.5.2 T2S calendar management

4 The T2S Calendar defines the system's opening and closing days. These closing days are defined by the T2S
5 Operator as ~~Reference~~Static Data objects [in the Common Reference Data Management \(CRDM\) component](#)
6 [and handled within the Business Day Management \(BDM\) component](#).

7 Closing days may also be currency-specific. A currency-specific closing day defines a day in which the sys-
8 tem may still open, but it is not possible to settle cash in that currency. Currency-specific closing days are
9 defined by the T2S Operator following the opening days of the relevant Central Banks.

10 See section [T2S calendar](#) [**Error! Bookmark not defined.**] for more details on the business concepts be-
11 hind the management of the T2S Calendar.

12 For more details see section [T2S calendar management](#) [[▶ 14](#)].

13 1.1.5.3 T2S settlement day management

14 The T2S Settlement Day schedule is [handled within the Business Day Management \(BDM\) Common Compo-](#)
15 [nent. It is](#) defined as a series of events. Each event corresponds to a process or cut-off which is triggered
16 within the system at a specified time and, optionally, following the completion of a set of prior events.

17 The T2S Operator defines a set of default event schedules for each business date. These are loaded auto-
18 matically when the system reaches the relevant business date.

19 The T2S Operator can manually intervene on the current business day schedule by inserting new events,
20 changing the scheduled time for one or more events, or closing events so that they are not executed.

21 In exceptional situations, it is possible to define certain events to be valid only for specific currencies: for in-
22 stance, the DVP cut-off could be moved past the normal time for a single currency.

23 For more details see section [T2S settlement day management](#) [[▶ 16](#)].

1 1.2 Configuration of Parties, Securities and Accounts

2 1.3 Access to T2S

3 1.3.1 Connectivity (A2A/U2A)

4 1.3.2 Authentication and authorisation

5 1.3.3 Access rights

6 1.3.3.1 Access rights concepts

7 1.3.3.1.1 T2S user function

8 1.3.3.1.2 Privilege

9 A privilege identifies the capability of triggering one or several T2S user functions and it is the basic element
10 to assign access rights to users. This means that a user U_x owns the access right to trigger a given T2S user
11 function F_y if and only if U_x was previously granted with the privilege P_y identifying the capability to trigger
12 F_y .

13 Privileges are classified into system privileges and object privileges. A system privilege refers to a T2S user
14 function that does not apply to a specific static or dynamic data object (e.g. a query on the current phase of
15 the settlement day). An object privilege refers to a T2S user function that applies to a specific static or dy-
16 namic data object (e.g. a T2S user function to display the reference data of a securities account). The fol-
17 lowing tables provide the exhaustive list of privileges covering all the T2S user functions available in A2A
18 mode:

19 [...]

20 | Table 46 - [Business Day Management](#)[Scheduling_queries](#) [▶ 4];

21 [...]

TABLE 1 - BUSINESS DAY MANAGEMENT SCHEDULING QUERIES

PRIVILEGE	T2S USER FUNCTION (MESSAGE)	PRIVILEGE TYPE	OBJECT TYPE	DEFAULT DATA SCOPE
T2S Calendar Query	T2S Calendar Query	System	n/a	All elements ²
T2S Diary Query	T2S Diary Query	System	n/a	All elements ³
Current Status of the T2S settlement day	Current Status of the T2S settlement day	System	n/a	Current status ⁴

1.3.3.1.3 Secured object**1.3.3.1.4 Secured group****1.3.3.1.5 Role****1.3.3.1.6 User****1.3.3.1.7 T2S static and dynamic data objects and the hierarchical party model****1.3.3.1.8 Data scope**

For each privilege, the hierarchical party model determines the default data scope of the grantee user, i.e. the set of static or dynamic data objects on which the grantee user can trigger the relevant T2S user function. More precisely:

- Users of the T2S Operator have visibility on all static and dynamic data objects, and can act on objects belonging to participants only in exceptional circumstances, following a specific agreement;
- Users of the CSDs and of the CBs have visibility on all static and dynamic data objects belonging to the same system entity; ⁵
- Users of the CSD participants and of the payment banks have visibility on static and dynamic data objects that are (directly or indirectly) linked to the same party.

The default data scope of each user can be extended or reduced on the basis of the actual business needs, by means of object privileges. Granting a user with a given privilege on a secured object (or on a secured group) results in extending the data scope of the user by adding the secured object (or the secured group)

² The grantee can query all the entries of the T2S calendar.

³ The grantee can query all the events of the current T2S settlement day.

⁴ The grantee can query the current status of the T2S settlement day.

⁵ A system entity in T2S corresponds to a partition of data equating to the scope of a CSD or CB. For example, the system entity of a CSD includes all the data related to its CSD participants.

1 to the default data scope of the user. Vice versa, denying a user of a given privilege on a secured object (or
2 on a secured group) results in reducing the data scope of the user by removing the secured object (or the
3 secured group) from the default data scope of the user.

4 The default data scope of privileges can also be extended or reduced at party level. Granting a party with a
5 given object privilege on a secured object (or on a secured group) as listed in tables

6 [...]

7 | [Business Day Management](#)[Scheduling](#) Queries

8 [...]

9 **1.3.4 Message subscription**

10 **1.3.5 Graphical User Interface**

11 **1.3.6 Security**

12 **1.4 Settlement Day**

13 **1.5 Possible actions of T2S Operator**

14 **1.5.1 Business application configuration**

15 **1.5.2 T2S calendar management**

16 The T2S Operator is able to manage the T2S Calendar by creating, updating and deleting Closing Days as
17 [Reference](#)[Statie](#) Data objects [in CRDM](#). Closing Days can also be defined by currency based on the opening
18 day calendars of the individual Central Banks.

19 **1.5.3 T2S settlement day management**

20 The T2S Operator also prepares the default event schedule for each business day by grouping events with
21 specific planned execution times and predecessor dependencies, and linking them to the relevant business
22 date.

23 Finally, the T2S Operator is able to perform the following manual interventions at run-time on the current
24 business day schedule:

25 | Inserting a new event;

26 | Changing the scheduled time for one or more events;

27 | [Removing one or more events which have not yet been triggered;](#)

28 | Closing an event before its completion, resulting in the system skipping that event.

29 For more details, see section [Operations and Support](#) [▶ 14]. For information on the business concepts be-
30 hind the management of the settlement day, see section [Settlement Day](#) [▶ 5].

1 1.6 Application Processes Description

2 1.6.1 Settlement

3 1.6.2 Liquidity Management

4 1.6.3 Reference~~Static~~ Data Management

5 1.6.3.1 Concept

6 1.6.3.2 Overview

7 1.6.3.3 Reference~~Static~~ Data maintenance process8 1.6.3.3.1 Reference~~Static~~ Data objects

9 [...]

10 11 **TABLE 2 - REFERENCE~~STATIC~~ DATA OBJECTS**

AREA	OBJECT	RESPONSIBLE T2S ACTORS ⁶
Party	Party	T2S Operator, CSD, CB
	Eligible counterpart CSD link	CSD
Securities	Securities	CSD ⁷
	Securities valuation	CB, Payment Bank
	Close link	CB
	Security CSD link	CSD
	Auto-collateralisation eligibility link	CB, Payment Bank
Securities penalty data	Securities Subject to Cash Penalties	CSD
	Security penalty rate	T2S Operator
	Cash discount penalty rate	T2S Operator
	Daily price	CSD
	SME Growth Market	T2S Operator CB ⁸

6 "All" indicates that all types of T2S Actors (T2S Operator, CSDs, CBs, Payment Banks and CSD Participants) have the ability to manage the object type.

7 Only the T2S Operator can maintain ISIN codes, in case of input errors by the responsible CSD.

8 Only the ECB will be allowed to maintain data for Euro Foreign Exchange reference rates.

AREA	OBJECT	RESPONSIBLE T2S ACTORS ⁶
	Euro Foreign Exchange Reference Rate	
Securities account	Securities account	CSD
	CSD account link	CSD
	CMB securities account link	CSD, CSD Participant
T2S dedicated cash account	T2S dedicated cash account	CB
	Credit memorandum balance	CB, Payment Bank
	Liquidity transfer order	CB, Payment Bank
	Liquidity transfer order link set	CB, Payment Bank
	External RTGS account	CB
	Limit	CB, Payment Bank
Access rights management	User	All
	Role	T2S Operator, CSD, CB
	Privilege	T2S Operator
	Secured object	T2S Operator, CSD, CB
	Secured group	T2S Operator, CSD, CB
	Certificate DN	All
	User-Certificate DN Link	All
Message subscription configuration	Message subscription rule	CSD, CB
	Message subscription rule set	CSD, CB
Network configuration	Routing	CSD, CB
	Network service	T2S Operator
	Technical address Network service link	CSD, CB
Report configuration	Report type	T2S Operator
	Report configuration	All
Attribute domain management ⁹	Attribute domain	T2S Operator, CSD, CB
	Attribute reference	T2S Operator, CSD, CB

⁹ Attribute domain management includes also some T2S general configuration parameters (See section [Business application configuration](#) [p. 284]).

AREA	OBJECT	RESPONSIBLE T2S ACTORS ⁶
Business Day Management Scheduling configuration	Event type	T2S Operator
	Operating day type	T2S Operator
	Closing day	T2S Operator
Market-specific attribute configuration	Market-specific attribute	CSD, CB
Restriction type management	Restriction type	T2S Operator, CSD, CB
	Restriction type rule	T2S Operator, CSD, CB
Conditional securities delivery configuration	Conditional securities delivery rule	CSD
	Conditional securities delivery rule set	CSD
Billing configuration	Service item	T2S Operator
Configuration parameters	Country	T2S Operator
	Currency	T2S Operator
	Partial settlement threshold	T2S Operator
	System entity	T2S Operator
	Tolerance amount	T2S Operator
	T2S BIC directory	T2S Operator

1

2 **1.6.3.3.2 Reference Static Data maintenance types**

3 **1.6.3.3.3 Validity of Reference Static Data objects**

4 [...]

5
6

TABLE 3 - REFERENCE STATIC DATA OBJECTS WITH UNLIMITED VALIDITY PERIOD

AREA	OBJECT	USAGE BY OTHER PROCESSES
Securities	Auto-collateralisation eligibility link	Taken into account by Settlement application process Realignment, CoSD, Optimising, Posting as of the next business date
	Close link	
Securities penalty data	SME Growth Market	Taken into account by T2S Penalty Mechanism: <ul style="list-style-type: none"> on the current business day if provided before the deadline

AREA	OBJECT	USAGE BY OTHER PROCESSES
		as of the next business date if provided after the deadline
T2S dedicated cash account	Credit memorandum balance ¹⁰ External RTGS account	Taken into account by all processes upon creation or update
Access rights management	User Role Privilege Secured object Secured group Certificate DN User-Certificate DN Link	Taken into account by all processes upon creation or update
Network configuration	Routing Network service Technical Address Network Service Link	Taken into account by all processes upon creation or update
Report configuration	Report type	Taken into account by all processes upon creation or update.
Attribute domain management	Attribute domain Attribute reference	Taken into account by all processes upon creation or update
<u>Business Day Management</u> Scheduling configuration	Event type Operating day type Closing day	Taken into account by all processes upon creation or update
Market-specific attribute configuration	Market-specific attribute	Taken into account by all processes upon creation or update
Billing configuration	Service item	Taken into account by all processes upon creation or update
Configuration parameters	Country Currency Partial settlement threshold System entity	Taken into account by all processes upon creation or update

10 The Credit Memorandum Balance itself has an unlimited validity period, but it contains links to Receiving and Regular Securities Accounts which have a limited validity period. These links can only be created or updated as of a future date.

1 [...]

2

3 **1.6.3.3.4 ReferenceStatic Data archiving and purging**

4 [...]

5 The following table shows the condition triggering the purge process for each ReferenceStatic Data object in
6 T2S:
7
8
TABLE 4 - PURGE TRIGGERING CONDITIONS

AREA	OBJECT	TRIGGERING CONDITION
Party	Party	Deletion
	Eligible counterpart CSD link	End of validity period
Securities	Securities	Deletion
	Securities valuation	End of validity period
	Close link	Deletion
	Security CSD link	End of validity period
	Auto-collateralisation eligibility link	Deletion
Securities penalty data	Securities subject to cash penalties	Deletion
	Security penalty rate	Deletion
	Cash discount penalty rate	Deletion
	Daily price	Deletion
	SME Growth Market	Deletion
	Euro Foreign Exchange Reference Rate	Deletion
Securities account	Securities account	Deletion
	CSD account link	End of validity period
	CMB securities account link	End of validity period
T2S dedicated cash account	T2S dedicated cash account	Deletion
	Credit memorandum balance	Deletion
	Liquidity transfer order	End of validity period
	Liquidity transfer order link set	End of validity period
	External RTGS account	Deletion
	Limit	Deletion
Access rights management	User	Deletion

AREA	OBJECT	TRIGGERING CONDITION
	Role	Deletion
	Privilege	Deletion
	Secured object	Deletion
	Secured group	Deletion
	Certificate DN	Deletion
	User-Certificate DN Link	Deletion
Message subscription	Message subscription rule	Deletion
	Message subscription rule set	Deletion
Network configuration	Routing	Deletion
	Network service	Deletion
	Technical Address Network Service Link	Deletion
Report configuration	Report type	Deletion
	Report configuration	Deletion
Attribute domain management	Attribute domain	Deletion
	Attribute reference	Deletion
Business Day Management Scheduling configuration	Even type	Deletion
	Operating day type	Deletion
	Closing day	Deletion
Market-specific attribute configuration	Market-specific attribute	Deletion
Restriction type management	Restriction type	Deletion
	Restriction type rule	Deletion
Conditional securities delivery configuration	Conditional securities delivery rule	Deletion
	Conditional securities delivery rule set	Deletion
Billing configuration	Service item	Deletion
Configuration parameters	Country	Deletion
	Currency	Deletion
	Partial settlement threshold	Deletion
	System entity	Deletion
	Tolerance amount	Deletion
	T2S BIC directory	Deletion

1 **1.6.3.3.5 Lifecycle of ReferenceStatic Data objects**2 **1.6.3.3.6 ReferenceStatic Data maintenance instructions processing**

3 [...]

4 **TABLE 5 - REFERENCESTATIC DATA OBJECTS THAT CAN BE MAINTAINED WHILE A NIGHT-TIME SEQUENCE IS RUNNING**

AREA	OBJECT
Party	Party ¹¹ Eligible Counterpart CSD
Securities	Securities ¹² Securities Valuation Close Link Security CSD Link Auto-collateralization eligibility link
Securities penalty data	Securities subject to cash penalties Security penalty rate Cash discount penalty rate Daily price SME Growth Market Euro Foreign Exchange Reference Rate
Securities Account	Securities Account ¹³ CSD Account Link CMB Securities Account Link
T2S Dedicated Cash Account	T2S Dedicated Cash Account ¹⁴ Credit Memorandum Balance Liquidity Transfer Order

11 Including the updates of MSA Party Attribute values, with the exception of the setup, update and removal of intraday restrictions.

12 Including the updates of MSA Securities Attribute values, with the exception of the setup, update and removal of intraday restrictions and updates of the following attributes: minimum settlement unit, settlement unit multiple, deviating settlement unit and settlement type (unless these updates apply to a security created on the current settlement day or to a security created before the current settlement date and not eligible for auto-collateralization since the start of the day), maturity/expiry date, settlement unit multiple (resulting in an increase of the number of decimal positions of its value).

13 Including the updates of MSA Securities Account Attribute values, with the exception of the setup, update and removal of intraday restrictions and updates of the positive/negative flag.

14 With the exception of the setup, update and removal of intraday restrictions and updates of the floor or ceiling notification amount.

AREA	OBJECT
	Liquidity Transfer Order Link Set External RTGS Account ¹⁵ Limit ¹⁶
Access Rights management	User Role Privilege Secured Group Certificate DN User-Certificate DN Link
Message subscription	Message subscription rule Message subscription rule set
Report configuration	Report Configuration
Attribute Domain management	Attribute Domain Attribute Reference
Business Day Management Scheduling configuration	Event Type Closing Day
Market-Specific configuration	Market-Specific Attribute
Restriction type management	Restriction type Restriction type rule
Conditional securities delivery configuration	CoSD rule CoSD rule set
Configuration parameters	Country Currency System Entity Tolerance amount T2S BIC Directory

15 With the exception of the setup, update and removal of intraday restrictions.

16 With the exception of the creation and update of the limit amount.

1 **1.6.3.3.7 [ReferenceStatic](#) Data status management**

2 **1.6.4 Information Management**

3 **1.6.5 Operations and Support**

4 1.6.5.1 Business application configuration

5 1.6.5.2 T2S calendar management

6 **1.6.5.2.1 Concept**

7 The T2S calendar defines the days on which the system is open for settlement, as well as possible currency-
8 specific closing days. [Through the Business Day Management \(BDM\) Common Component](#), T2S provides a
9 single harmonised timeframe for centralised securities settlement, but – in line with the multi-currency ap-
10 proach – allows for the existence of closing days by currency which are days on which there is no cash set-
11 tlement in said currency.

12 This section focuses on the tools at the disposal of the T2S Operator for the management of the T2S Calen-
13 dar. For a detailed description of the T2S Calendar concept, see section [T2S calendar](#) [**▶ Error! Bookmark**
14 **not defined.**].

15 **1.6.5.2.2 Overview**

16 T2S works with an internal business date, which is updated automatically by the system at each Start of
17 Day. In general, the T2S business date corresponds to the current calendar date or, after the business date
18 change process at Start of Day, to the next available opening date for the system (See section [T2S calendar](#)
19 [**▶ Error! Bookmark not defined.**]) for details on the business date change process).

20 The T2S Operator can manage the T2S Calendar by defining closing days. These items are defined by the
21 T2S Operator as [ReferenceStatic](#) Data objects, linked to the relevant date, and stored in the [Common Refer-
22 ence Data Management \(CRDM\) Component](#) database. The T2S Operator can create, update and delete
23 closing days. For a detailed description of the [ReferenceStatic](#) Data Maintenance process, see section [Refer-
24 enceStatic Data Management](#) [**▶ 6**].

25 Closing days can be defined by currency or for all currencies. A closing day defined for all currencies, or
26 “system-wide” closing day, determines a day on which T2S is not open for business. Closing days by cur-
27 rency are defined according to the opening days of the relevant Central Bank, and determine days on which
28 a specified currency is not allowed to settle. For more details see section [T2S calendar](#) [**▶ Error! Bookmark**
29 **not defined.**].

30 **1.6.5.2.3 T2S calendar maintenance process**

31 In general, T2S is open for settlement from Monday to Friday. The T2S business date is based on automatic
32 updates calculated daily by the system which ignore Saturdays, Sundays and system-wide closing days.

1 Both system-wide and currency-specific closing days are managed by the T2S Operator. The latter are de-
 2 fined based on the respective Central Bank’s closing day calendar. Both types of closing days are created,
 3 updated and deleted as any other **ReferenceStatic** Data object. See section **ReferenceStatic Data Manage-**
 4 **ment** [6] for more details.

5 **EXAMPLE 1 - T2S CALENDAR**

Calendar Date	24/12/2019 (Tuesday)	25/12/2019 (Wednesday)	26/12/2019 (Thursday)	27/12/2019 (Friday)	28/12/2019 (Saturday)	29/12/2019 (Sunday)
T2S Business Date	24/12/2019	27/12/2019	27/12/2019	27/12/2019	30/12/2019	30/12/2019
System-wide closing day		YES	YES			
Currency-specific closing day(s)				XYZ Closed		

6 **RED** boxes represent days on which T2S is not open for settlement.

7 In the example above, December 25th and 26th are defined as system-wide closing days. As a result, upon
 8 End of Day on December 24th, the business date is automatically set to the first available date, i.e. Decem-
 9 ber 27th. December 28th and 29th are respectively a Saturday and a Sunday, so they are automatically
 10 skipped with no need of being defined as closing days. As a result, T2S remains closed for settlement on De-
 11 cember 25th, 26th, 28th and 29th. Supposing a participating Central Bank has a national holiday on Decem-
 12 ber 27th, the latter date is defined as a currency-specific closing day for the hypothetical currency XYZ,
 13 which means that on that date T2S is open for settlement but it is not possible to settle cash transactions in
 14 currency XYZ.

15 **1.6.5.2.4 Parameters synthesis**

CONCERNED PROCESS	PARAMETER	CREATED BY	UPDATED BY	MANDATORY/ OP-TIONAL	POSSIBLE VAL-UES	STANDARD OR DEFAULT VALUE
T2S Calendar Management	Closing Day date	T2S Operator	T2S Operator	M	Any business date	N/A
T2S Calendar Management	Closing Day currency	T2S Operator	T2S Operator	M	Any T2S settle-ment currency, or "XXX" for all currencies.	XXX

1 1.6.5.3 T2S settlement day management

2 **1.6.5.3.1 Concept**

3 The T2S settlement day is [handled within the Business Day Management \(BDM\) component and](#) made up of
4 a series of scheduled events. These events define the various processing steps and cut-offs which are to be
5 carried out during the system's operation. Usually, an event corresponds to an internal T2S process which is
6 to be carried out at a scheduled time.

7 The default schedule for each business day is loaded automatically by the system upon each business date
8 change. The basis for this default schedule is a series of [ReferenceStatie](#) Data objects stored in the database
9 by the T2S Operator. It is then possible for the T2S Operator to perform manual changes on the current
10 business day schedule at run-time in exceptional situations.

11 **1.6.5.3.2 Overview**

12 The event schedule for the current business day is visible to all T2S users ¹⁷ [within BDM](#), but modifications
13 can only be performed by the T2S Operator.

14 Once the business date is set, the system then searches for the relevant operating day type and loads the
15 new day's event schedule based on the events contained in the operating day type.

16 Each event is categorized into an event type. Event Types are registered as [ReferenceStatie](#) Data. An Event
17 Type identifies the basic set of information necessary to define an event before it is inserted in a time sched-
18 ular; specifically, what kind of internal process or cut-off it should trigger, whether it can be defined as cur-
19 rency-specific, and other parameters relevant to the single instance. The definition of an Event Type as "cur-
20 rency-specific" leaves the possibility, e.g. intended for contingency situations, to differentiate between occur-
21 rences of the same Event Type in the same business day schedule for different currencies (See section [Event](#)
22 [maintenance process](#) [▶ 22]).

23 Event Types may also be defined as currency-specific, meaning that the related scheduled events only apply
24 to individual settlement currencies in T2S. During normal operations, the business day schedule is harmo-
25 nized for the entire system; however, this feature allows the T2S Operator to change, in exceptional circum-
26 stances, the scheduled times for certain events of the current business day only for a specific currency,
27 based on a request from the relevant Central Bank. For more details, see the section Event maintenance
28 process below, and see section T2S calendar.

29 For any given business date, the T2S Operator is able to define an operating day type which encompasses
30 the default set of events which are loaded for that business date. Specifically, the operating day type is a
31 collection of event types characterized by the relevant details which define their position in the daily sched-
32 ular. These details are:

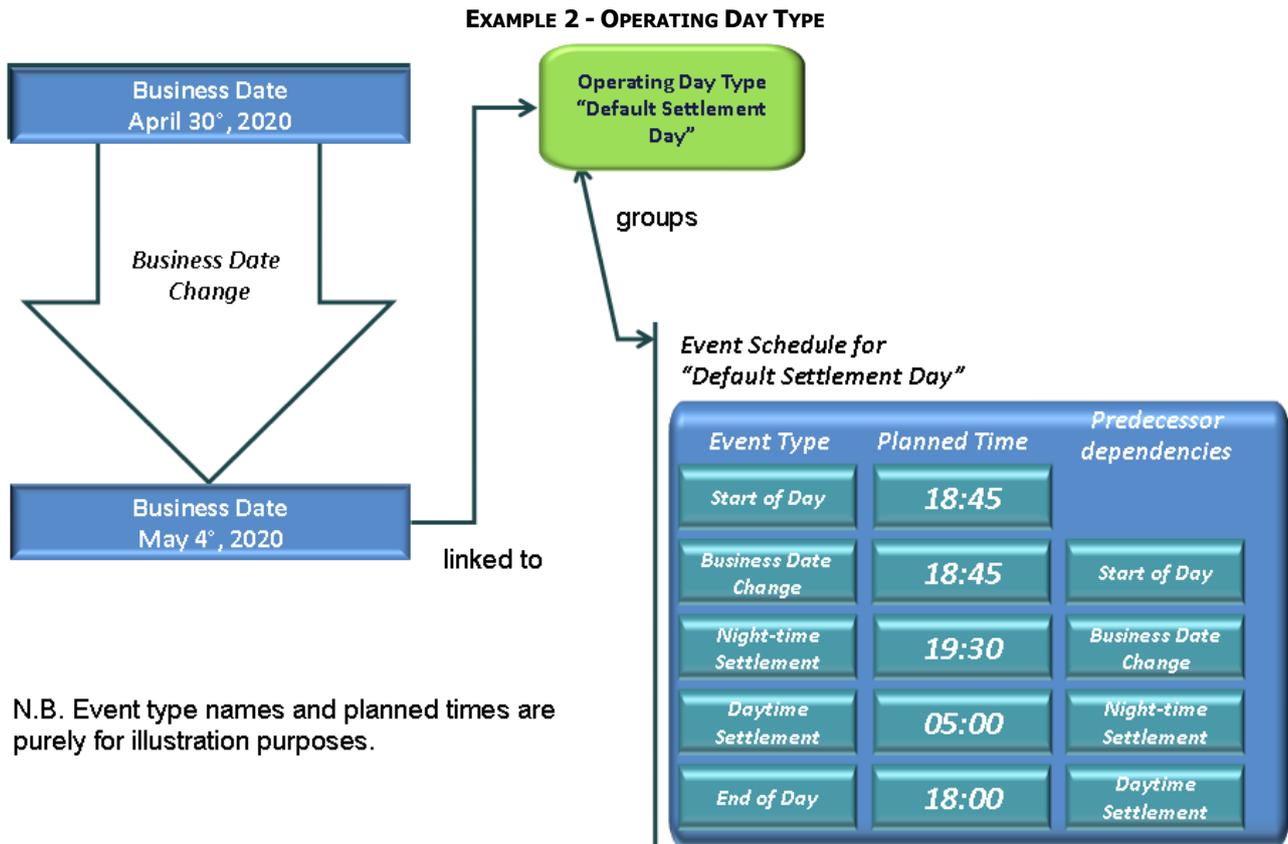
- 33 | The event's scheduled time
- 34 | The event's mutual dependencies with other events of the same business day schedule.

17 For each event, users can retrieve its type and currency, plus all its relevant timestamps (planned time, revised time, effective time, end time), as defined in section [Event scheduling process](#) [▶ 796].

1 These two characteristics are defined by the T2S Operator when creating the schedule for each operating
2 day type.

3 The example below illustrates the relationships between the business date, the operating day type and the
4 default business day schedule. Once the new business date is set, the system searches for the relevant op-
5 erating day type, which contains the default schedule (i.e. collection of events with the relevant planned
6 time and dependencies). The event schedule for the new business day is subsequently set up according to
7 the default data.

8



9

10 In this example, the event "Night-time settlement" has a predecessor dependency with "Business Date
11 Change", meaning that "Night-time settlement" cannot be triggered unless "Business Date Change" is com-
12 plete. Similarly, "Business Date Change" is scheduled for 18:45 but so is its predecessor "Start of Day".
13 Therefore "Business Date Change" is triggered as soon as Start of Day is complete. For details refer to sec-
14 tion "Event Scheduling process" below.

15 The T2S Business Date Change process is triggered via an event in the business day schedule. Since there
16 are no predefined constraints on how events may be scheduled and/or managed during a specific business
17 day, one implication of this aspect is that the T2S Business Date can in fact be made independent from the
18 calendar date.

19 The following sections describe different processes involved in the T2S Settlement Day Management, specifi-
20 cally:

- 21 | "Event Type Maintenance process" refers to the definition of standard Event Types, i.e. the basic ele-
22 ments that make up each business day schedule;

- 1 | ["Chain of Events maintenance process"](#) refers to the definition of chains of events, i.e. standard groups
2 | [of events inside an Operating Day Type which can be replanned or deactivated dynamically with a single](#)
3 | [maintenance operation;](#)
- 4 | "Operating Day Type Maintenance process" refers to the definition of Operating Day Types, i.e. groups
5 | of Events which define the schedule for each business day;
- 6 | "Event Scheduling process" describes how the system manages the schedule for the current business
7 | day;
- 8 | "Event Maintenance process" describes the interventions the T2S Operator can perform at run-time on
9 | the current business day schedule in abnormal (emergency) situations.

10 | **1.6.5.3.3 Event type maintenance process**

11 | As stated above, Event Types are maintained by the T2S Operator in the [CRDM](#) database. The T2S Operator
12 | is allowed to create, update and delete Event Types for later use in preparing the default schedules for each
13 | Operating Day Type.

14 | Event Types may also be defined as currency-specific, meaning that the related scheduled events only apply
15 | to individual settlement currencies in T2S. During normal operations, the business day schedule is harmo-
16 | nised for the entire system; however, this feature allows the T2S Operator to change, in exceptional circum-
17 | stances, the scheduled times for certain events of the current business day only for a specific currency,
18 | based on a request from the relevant Central Bank. For more details, see the section [Event maintenance](#)
19 | [process](#) [▶ 22] below, and see section [T2S calendar](#) [▶ **Error! Bookmark not defined.**].

20 | Event Types which are not previously defined as currency-specific cannot be treated in this way. For exam-
21 | ple, key deadlines such as End of Day or Start of Day are always kept harmonised at system level, ensuring
22 | that there always is a common T2S schedule for all currencies and participants.

23 | **1.6.5.3.4 Chain of Events maintenance process**

24 | [The T2S Operator is allowed to replan and deactivate a chain of events dynamically in the current business](#)
25 | [day schedule. Replannings and deactivations can be performed by the Operator with single maintenance op-](#)
26 | [erations in the BDM GUI.](#)

27 | **1.6.5.3.5 Operating day type maintenance process**

28 | The T2S Operator manages Operating Day Types as [ReferenceStatic](#) Data objects. See section [Refer-](#)
29 | [enceStatic Data Management](#) [▶ 6] for more details.

30 | Each business date has its own Operating Day Type, which allows the automatic generation of the business
31 | day schedule upon Start of Day.

32 | Modifications to the Operating Day Type structure may only be made effective on future dates; for the man-
33 | agement of intra-day modifications, the T2S Operator relies on the Event maintenance process described
34 | below.

1 **1.6.5.3.6 Event scheduling process**

2 The schedule for each business day is generated by the **BDM component system** at each Start of Day. This
3 automatic process draws from the **ReferenceState** Data previously set up by the T2S Operator **in CRDM**, i.e.
4 the Operating day type for the new business date and all related scheduled events.

5 The schedule is created by taking into account the events' scheduled times and the various possible depend-
6 encies between them.

7 Regarding the scheduled time, each planned event in the current business day schedule is detailed according
8 to the following timestamps:

- 9 | The planned time corresponds to the standard schedule applied by default by T2S for every settlement
10 day. The T2S Operator can update this planned time in case of a permanent change in the regular
11 schedule;
- 12 | The revised time is the foreseen time for the current settlement day, which usually coincides with the
13 planned time except when a delay has occurred. In contingency situations, the T2S Operator updates
14 the revised time while the planned time remains unchanged;
- 15 | The effective time is the time of the actual occurrence of the event during the current settlement day.
- 16 | The end time is the time at which the system registers the successful processing of an event. An event
17 marked with an end time is considered "complete". For example, an event representing a cut-off is con-
18 sidered "passed" once the end time is set. This is also relevant in the management of predecessor con-
19 straints: when dealing with a dependency between a predecessor event A and a successor event B, a
20 necessary condition for triggering B is that A is complete; in other words, that A has an end time. See
21 also example below.

22 The example below illustrates the moments in which the various timestamps are registered for a theoretical
23 event "X".

1

EXAMPLE 3 - EVENT TIMESTAMPS



2

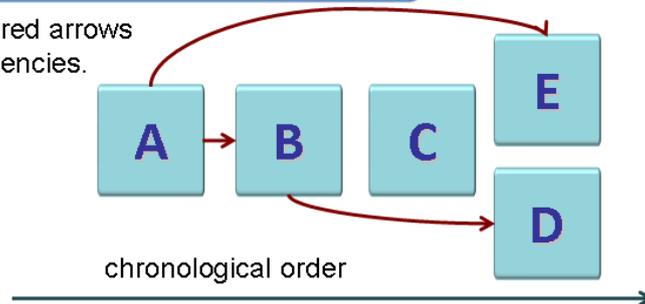
3 The following diagram illustrates the concept of Event dependencies. It shows five events, each with its own
 4 planned times and predecessor dependencies. Specifically, in the example, A is a predecessor to B and E and
 5 B is a predecessor to D. The diagram shows the events setup as well as a graphical representation of the
 6 predecessor dependencies (depicted as red arrows) with the events represented in chronological order by
 7 planned time.

1

EXAMPLE 4 - EVENT DEPENDENCIES (A)

Event Type	Planned Time	Predecessors	Effective Time	End Time
A	16:15	none		
B	16:30	A		
C	16:45	none		
D	17:00	B		
E	17:00	A		

In the diagram to the right, the red arrows represent predecessor dependencies.



2

3 Event A is triggered at 16:15, but there is a problem in the internal processing which causes a one-hour de-
4 lay. Without any intervention by the T2S Operator, this results in the following:

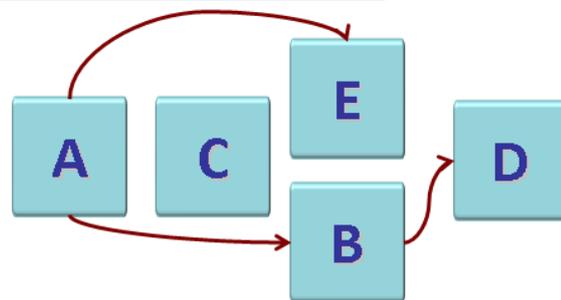
- 5 | Event A is triggered at 16:15.
- 6 | At 16:30, Event B cannot be triggered as Event A is not yet completed.
- 7 | At 16:45, Event C is triggered and completed normally as it has no predecessor dependencies.
- 8 | At 17:00, Events D and E cannot be triggered as their respective predecessors B and A are not yet com-
9 pleted (with B yet to be started);
- 10 | At 17:15, the problem is solved and Event A is completed. Upon completion of A, Events B and E are
11 triggered and completed. Upon completion of B, the same happens for D (which therefore is executed
12 after E despite having the same scheduled time).

13 The following diagram shows how the above list affects the effective and end timestamps for each event, as
14 well as the sequence the events are actually triggered in. The actual sequence of events is represented be-
15 low.

1 **EXAMPLE 5 - EVENT DEPENDENCIES (B)**

Event Type	Planned Time	Predecessors	Effective Time	End Time
A	16:15	none	16:15	17:15
B	16:30	A	17:15	17:16
C	16:45	none	16:45	16:45
D	17:00	B	17:16	17:17
E	17:00	A	17:15	17:16

The actual sequence of the events will therefore be as follows: (red arrows represent predecessor dependencies)



2

3 **1.6.5.3.7 Event maintenance process**

4 In normal operating conditions, each event is triggered upon reaching its planned or revised time and, if applicable, once all predecessor events have been successfully completed.

6 In addition, the T2S Operator has at its disposal several options to modify the current business day event schedule. The possible interventions are listed below, and are generally intended for use in contingency situations:

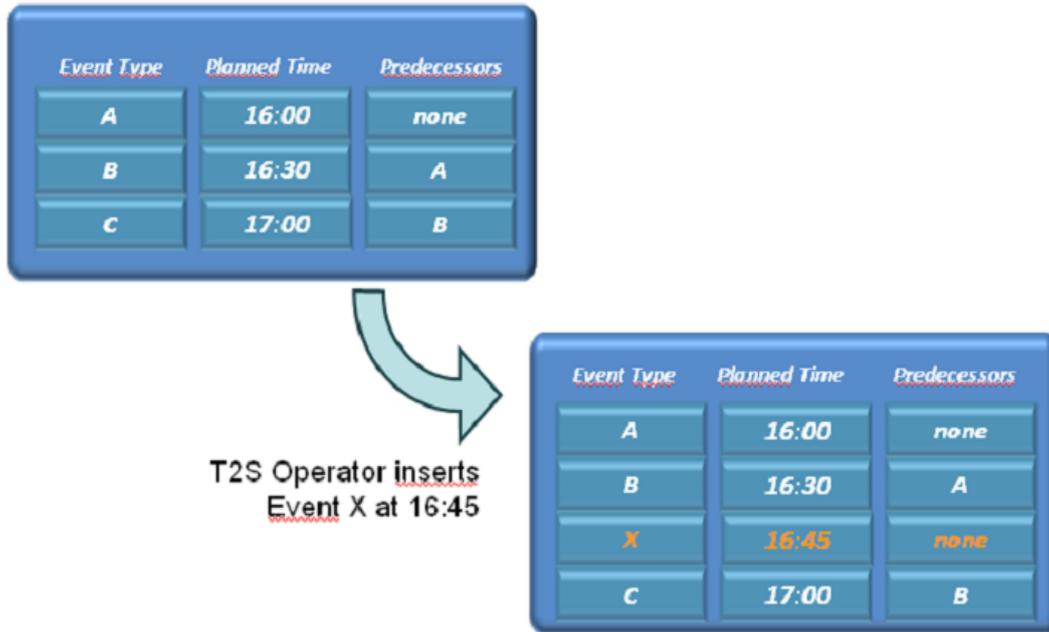
- 9 | Insert a new event instance in the current business day schedule
- 10 | [Change the revised time for one event which has not yet been triggered](#)
- 11 | Change the revised time for ~~several~~~~one or more~~ events which have not yet been triggered¹⁸
- 12 | Force completion of an event
- 13 | [Force completion of a chain of events](#)

14 A previously unplanned event may be inserted in the current business day schedule by specifying an existing Event type with a planned time, which must be greater than the current time (in other words, events cannot be scheduled in the past). [In the following example, the T2S Operator inserts an Event X at 16:45.](#)

¹⁸ It is possible to time-shift an entire portion of the business day schedule (i.e. one event and all others that come after it), a single chain of events or a subset of events identified by the same event currency.

1

EXAMPLE 6 - EVENT INSERTION

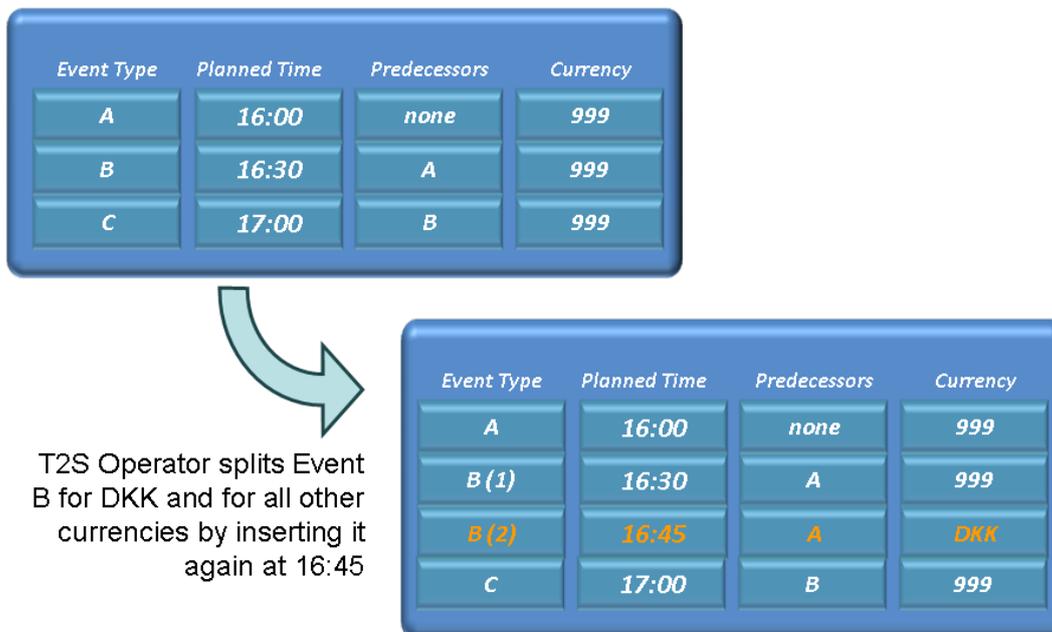


2

3 It is furthermore possible to insert a new event by defining it for a specific currency, following a request
 4 from the relevant central bank. This can only be done on events of an Event Type which allows this option;
 5 for instance, on specific events that are not related to centralised T2S deadlines (See section [Event type](#)
 6 [maintenance process](#) [▶ 18] for further details). In the following example, the Operator splits event B for
 7 DKK and for all other currencies by inserting it again at 16:45.

8

EXAMPLE 7 - EVENT INSERTION (CURRENCY-SPECIFIC) FOR EMERGENCY SITUATIONS

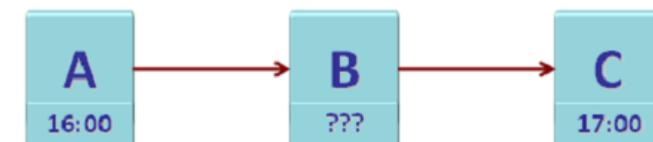


9

10 In the example above, B is scheduled twice, once for "all" currencies (code XXX) and once for Danish Krone
 11 alone. In order to reach this situation, the T2S Operator only needs to insert a new event specifically for
 12 DKK. Upon reaching the event with currency code "XXX", T2S acknowledges the existence of another event

1 of the same type with a different currency code (DKK) in the system and automatically applies the "XXX"
 2 event for all currencies except DKK.
 3 The procedure described above is applicable only in emergency situations, and only on events in the current
 4 business day schedule (i.e. one cannot plan to have currency-specific events in future dates).
 5 An event which is already in the current day schedule may undergo a change in its scheduled time due to
 6 particular requirements, e.g. in emergency situations. Such a change may only be performed on events
 7 which have not yet been triggered. If the T2S Operator changes the scheduled time for a specific event, the
 8 new planned time is registered as "revised time" (see above). The change is valid only for the current busi-
 9 ness day. The change in planned time may not violate the existing predecessor constraints; a single event
 10 may not be moved past another event of which it is a predecessor. In the following example the T2S Opera-
 11 tor changes the time for Event B to 16:45; due to predecessor dependencies, the revised time for B can only
 12 be moved between 16:01 and 16:59.

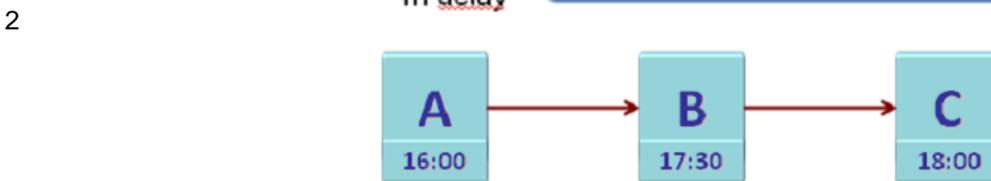
13 **EXAMPLE 8 - EVENT TIME CHANGE (A)**



14 Due to predecessor dependencies, the revised time for
 15 B can only be moved between 16:01 and 16:59.

16 If necessary, an entire string of events can be moved, introducing an equal variation for an event and all the
 17 events that follow it. The string of events can be identified as part of the same chain of events, as subset of
 18 currency dependent events, or as subset of events for which the planned time is later than the selected
 19 event. In the following example the operator changes the time for B and all subsequent events by introduc-
 20 ing a 1-hour delay:

1 **EXAMPLE 9 - EVENT TIME CHANGE (B)**



By delaying all subsequent events along with B, it is possible to move B past 17:00 without violating its predecessor dependencies.

3
4 Forcing completion of an event means that the event is automatically "completed" by setting the Effective
5 Time and End Time to the current system time. If the event is already started (and therefore has already a
6 value for Effective Time) only the End Time is filled in. The result is that **BDM ignores the result of the re-**
7 **lated process, which has to be monitored by the T2S Operator. the event is effectively "skipped" by the sys-**
8 **tem and the related process is not run.** This action may be performed on any event which is not yet com-
9 pleted. It can be used in a situation where an event's execution is to be skipped for the current business
10 day. **The same action can be performed on a chain of events.**

11 For example, the scenario described in examples 4 and 5 can be reused. An event A starts at 16:15 as
12 planned, but an internal problem causes a long delay. At 17:01, with A still running, it is agreed that events
13 A and D are no longer necessary for the current business day. Therefore the T2S Operator forces completion
14 of A and D, resulting in the following timestamps being applied:

1

EXAMPLE 10 - EVENT FORCED COMPLETION

Event Type	Planned Time	Predecessors	Effective Time	End Time
A	16:15	none	16:15	17:01
B	16:30	A	17:01	17:02
C	16:45	none	16:45	16:45
D	17:00	B	17:01	17:01
E	17:00	A	17:01	17:02

T2S Operator forces completion of Events A (running) and D (not yet started) at 17:01.

2

3

1.6.5.3.8 Parameters synthesis

4

CONCERNED PROCESS	PARAMETER	CREATED BY	UPDATED BY	MANDATORY/OPTIONAL	POSSIBLE VALUES	STANDARD OR DEFAULT VALUE
T2S Settlement Day Management	Event Type	T2S Operator	T2S Operator	O	N/A	N/A
T2S Settlement Day Management	Event Planned Time	T2S Operator	T2S Operator	M	00:00–23:59	N/A
T2S Settlement Day Management	Event Revised Time	T2S Operator	T2S Operator	O	00:00–23:59	N/A
T2S Settlement Day Management	Event Currency	T2S Operator	T2S Operator	M	Any T2S Settlement Currency, or "XXX" for all currencies	XXX
T2S Settlement Day Management	Event Predecessors	T2S Operator	T2S Operator	O	Any other Event in the same business day schedule	N/A

5