

# T2-T2S Consolidation

CRDM

30-09-2021

DeNederlandscheBank

EUROSYSTEEM



# CRDM and its usage in T2

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T2-T2S Consolidation Training Session

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- General concept
  - Party data
  - Cash Account data
  - Network configuration
  - Report configuration and Message Subscription
  - Access Rights
  - Data propagation

# 1. General concept

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## General concept

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- The **Common Reference Data Management** Component (CRDM) allows to maintain common reference data for use in different Services and components.
- It is the **single access point** for the creation, update and deletion of reference data relevant for T2.
- Each CRDM Actor can view data and use CRDM functions based on their own **access rights profile**.

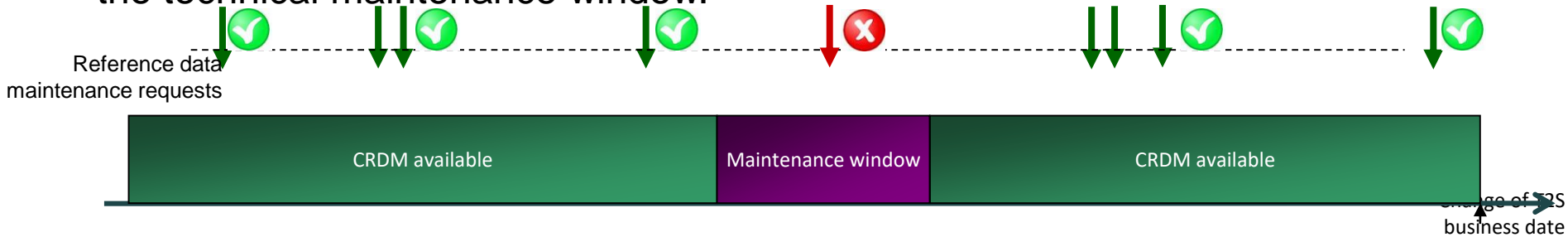
# General concept

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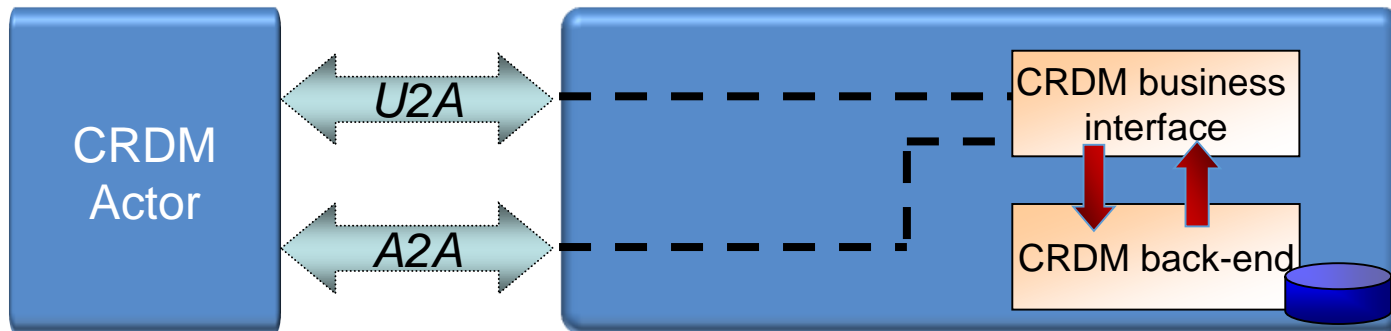
- CRDM functions offer common maintenance operations (**creation, update, deletion, restore**) on the following configuration areas for T2:
  - Party data
  - Cash Account data
  - Access rights management
  - Network configuration
  - Message subscription
  - Report configuration
  - Business day management configuration
  - Restriction type management
  - Billing configuration
  - Configuration parameters

# General concept

- CRDM follows the T2S business day.
- CRDM functions are available throughout the settlement day, with the exception of the technical maintenance window.

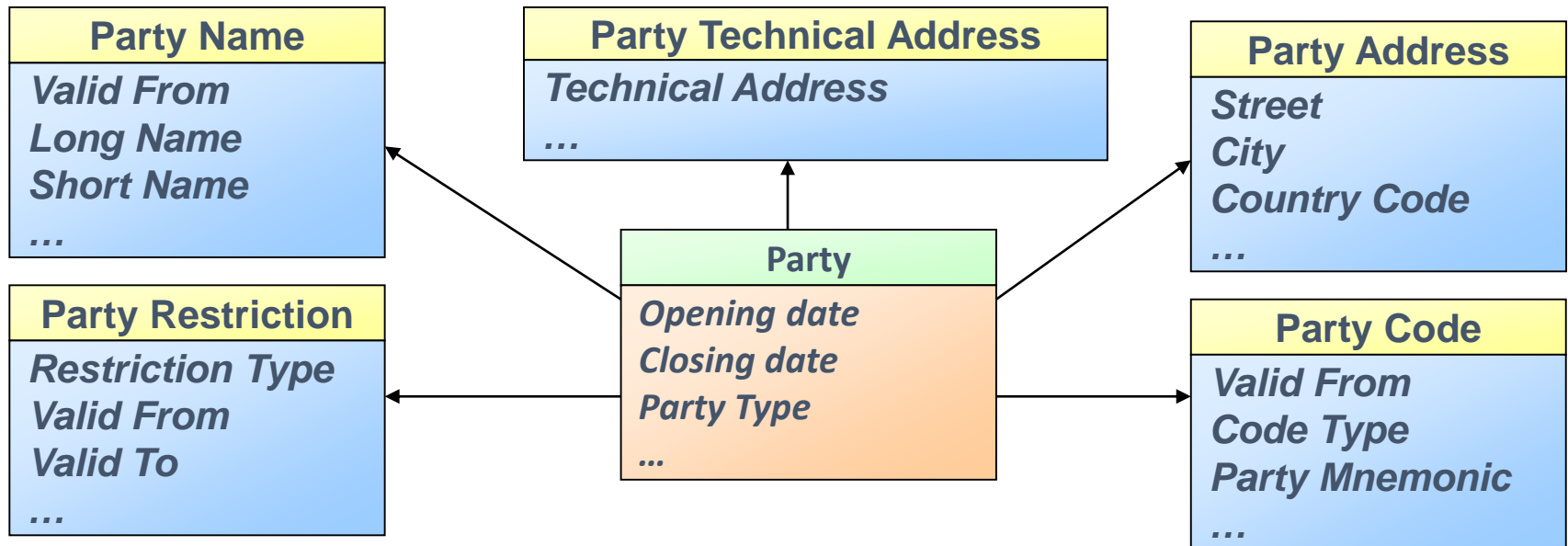


- Users can access CRDM in User-to-Application or Application-to-Application mode through a dedicated Business Interface.



# General concept – Reference data objects

- A **reference data object** is a set of logically related, self-consistent information. It is always comprised of one **major entity** and, possibly, a number of **minor entities**.





# General concept – Maintenance types

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Party XYZ
<i>Opening Date: 2022-12-15</i>
<i>Closing Date: 9999-12-31</i>
<i>Deletion Status: ACTIVE</i>

Party XYZ
<i>Opening Date: 2022-12-15</i>
<i>Closing Date: <b>2025-06-30</b></i>
<i>Deletion Status: ACTIVE</i>

Party XYZ
<i>Opening Date: 2022-12-15</i>
<i>Closing Date: 2025-06-30</i>
<i>Deletion Status: <b>DELETED</b></i>

Party XYZ
<i>Opening Date: 2022-12-15</i>
<i>Closing Date: 2025-06-30</i>
<i>Deletion Status: <b>ACTIVE</b></i>

## Possible maintenance types

**Create:** insertion of a new entity

**Update:** modification of existing attribute(s)

**Delete:** logical deletion through deletion status

**Restore:** reactivation of deleted entities

## General concept – 2/4-Eyes principle

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- Reference data maintenance can occur on 2- or 4-Eyes basis.
- **2-Eyes**: the user is able to accomplish a reference data maintenance request without any confirmation of another user
- **4-Eyes**: the first user can only initiate an action which will remain pending until confirmed by a second user with appropriate privileges
  - The data remains in “awaiting approval” status until the second user intervenes
  - The second user can “Approve” or “Revoke” the first request to mark the data accordingly
- All reference data changes performed in **U2A mode** can be executed either in 2-eyes or in 4-eyes mode
- Reference data changes performed in **A2A mode** can only be executed in 2-eyes mode
- Whether 2-eyes or 4-eyes mode applies is decided according to the **privilege** granted to user

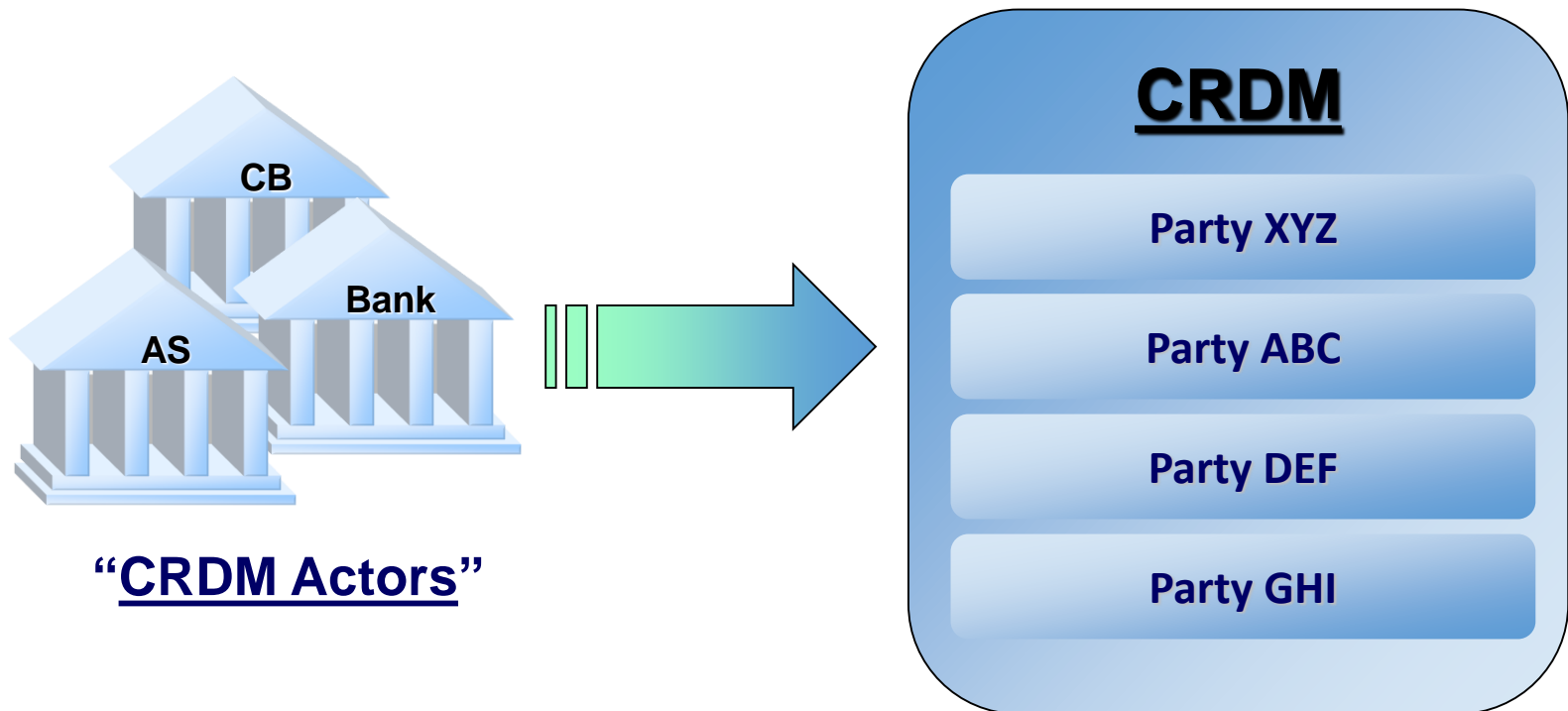
# 2. Reference data objects

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Party data

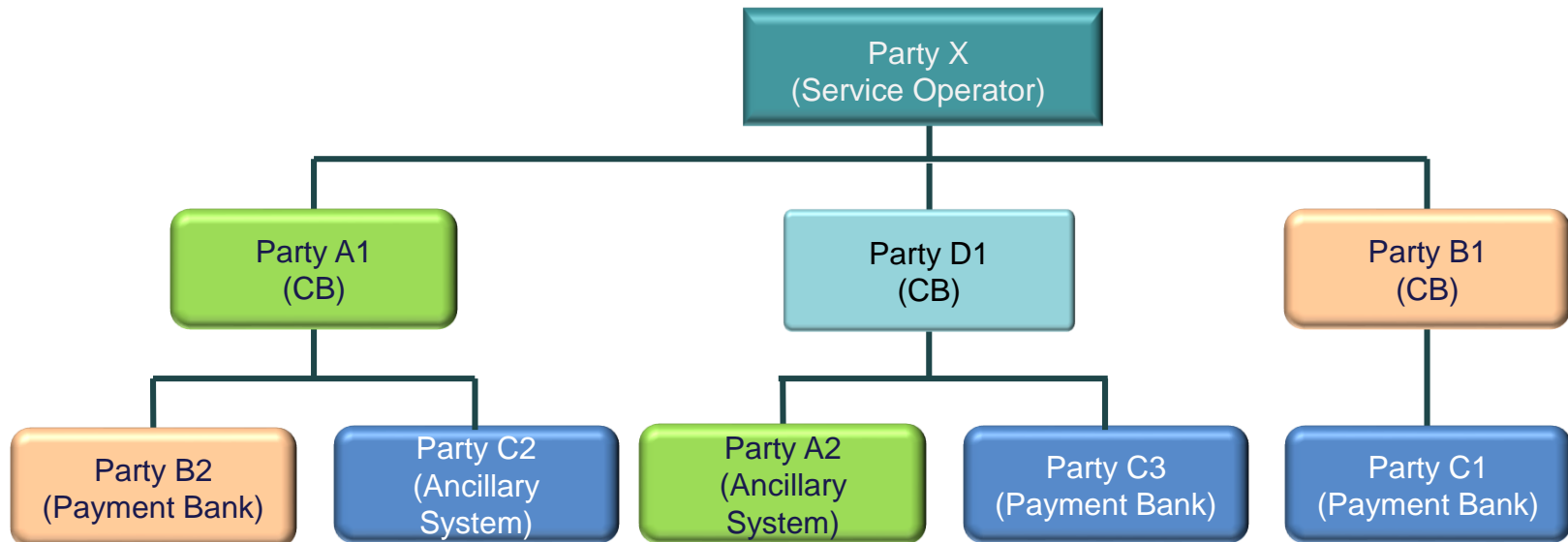
# CRDM Objects – Party

- A **Party** represents any institution defined in CRDM
- Each CRDM Actor is represented by **one or more** Parties in CRDM

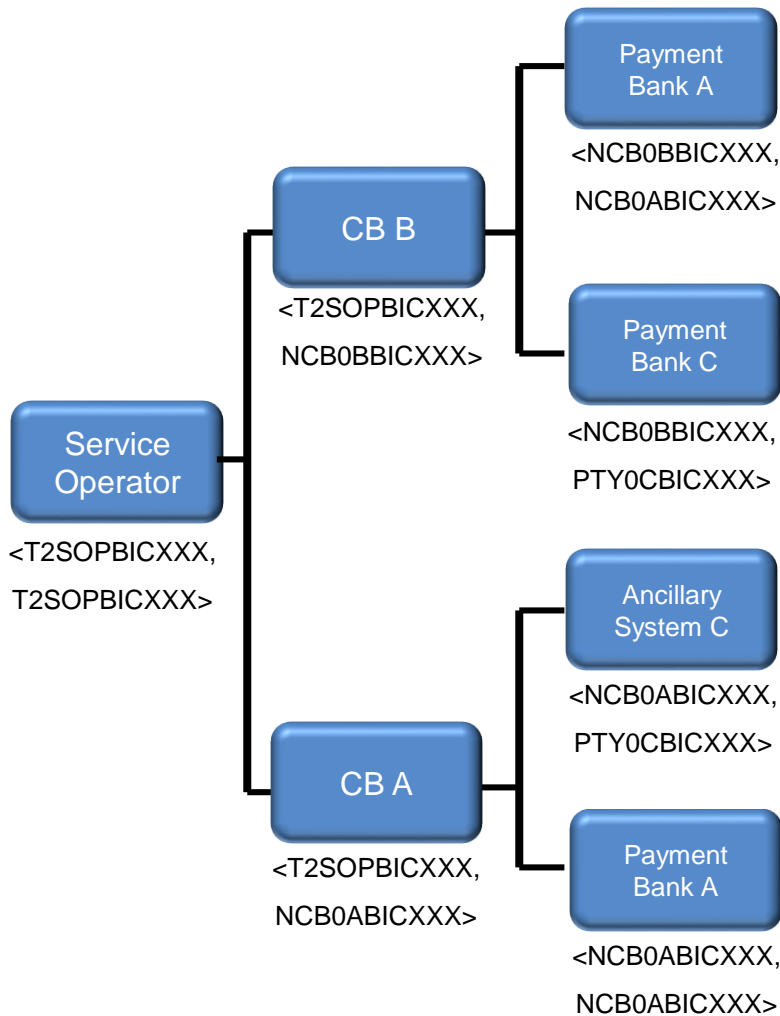


# CRDM Objects – Party

- Parties follow a **hierarchical model** determining their reference data scope, i.e. the area of responsibility of each CRDM Party
- The **Party Types** relevant for T2 are Central Bank, Payment Bank and Ancillary System



# CRDM Objects – Party

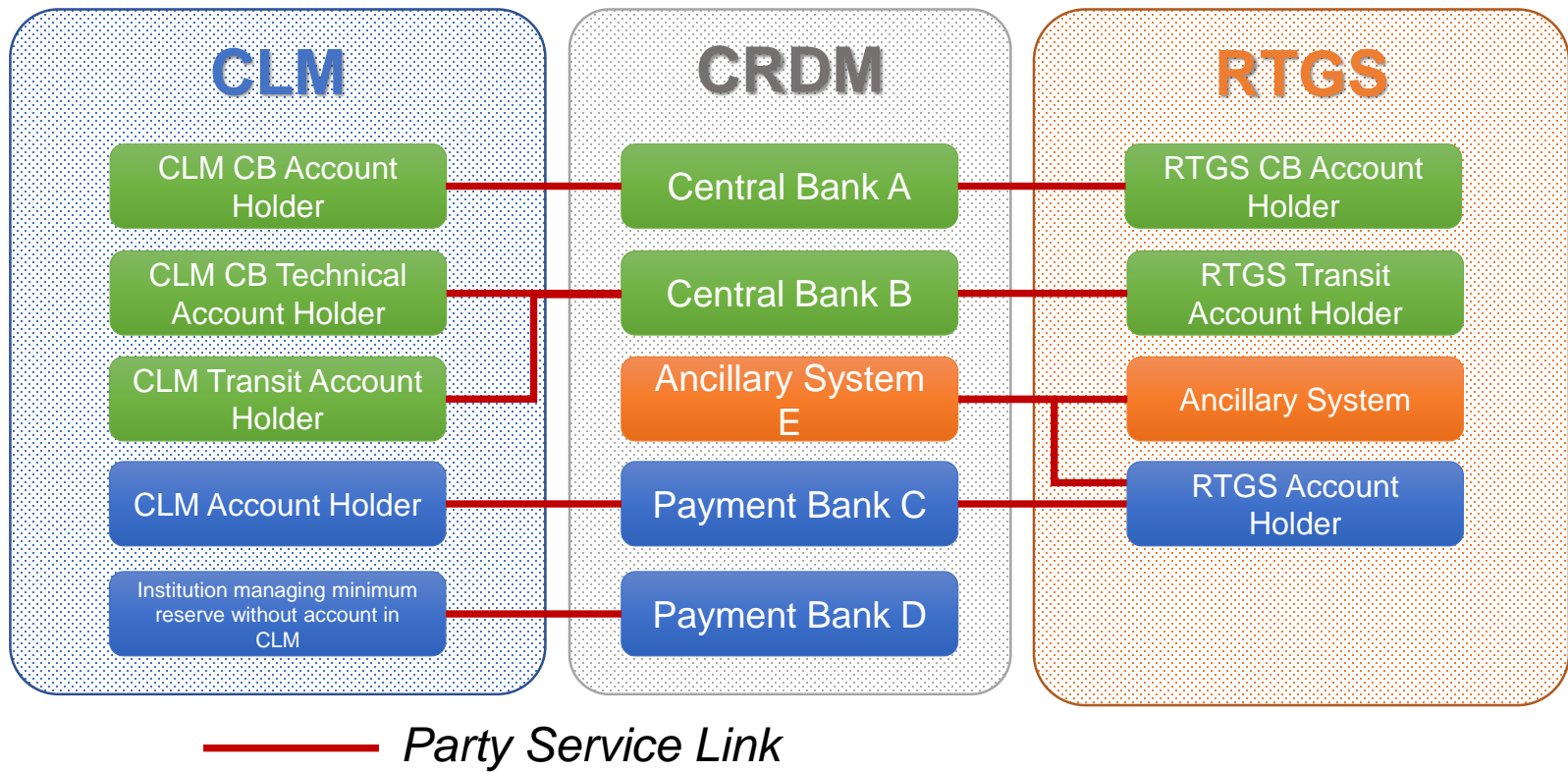


## Party Identification

- Each CB is identified by the BIC of the Operator plus its own BIC
- Each Payment Bank and AS is identified by the BIC of its CB plus its own BIC
- **T2 uses a single-BIC to uniquely identify Parties.** Therefore, even if multiple Parties with the same BIC can exist in CRDM, at any given point in time only one of each can participate in T2.

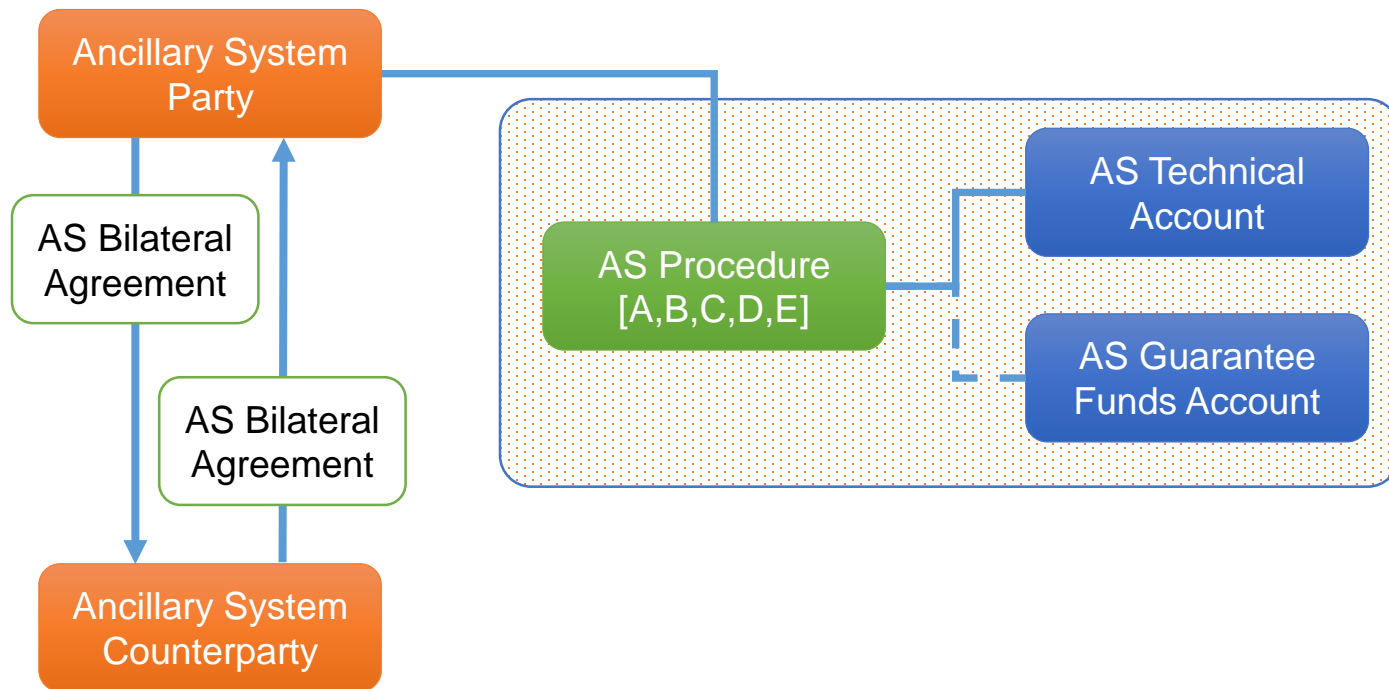
# CRDM Objects – Party

- Each Party is defined once in CRDM and can be linked to the different Services/components it uses via a **Party Service Link**
- When defining a Party Service Link, each Party takes on a Service/component-specific **Service Party Type**



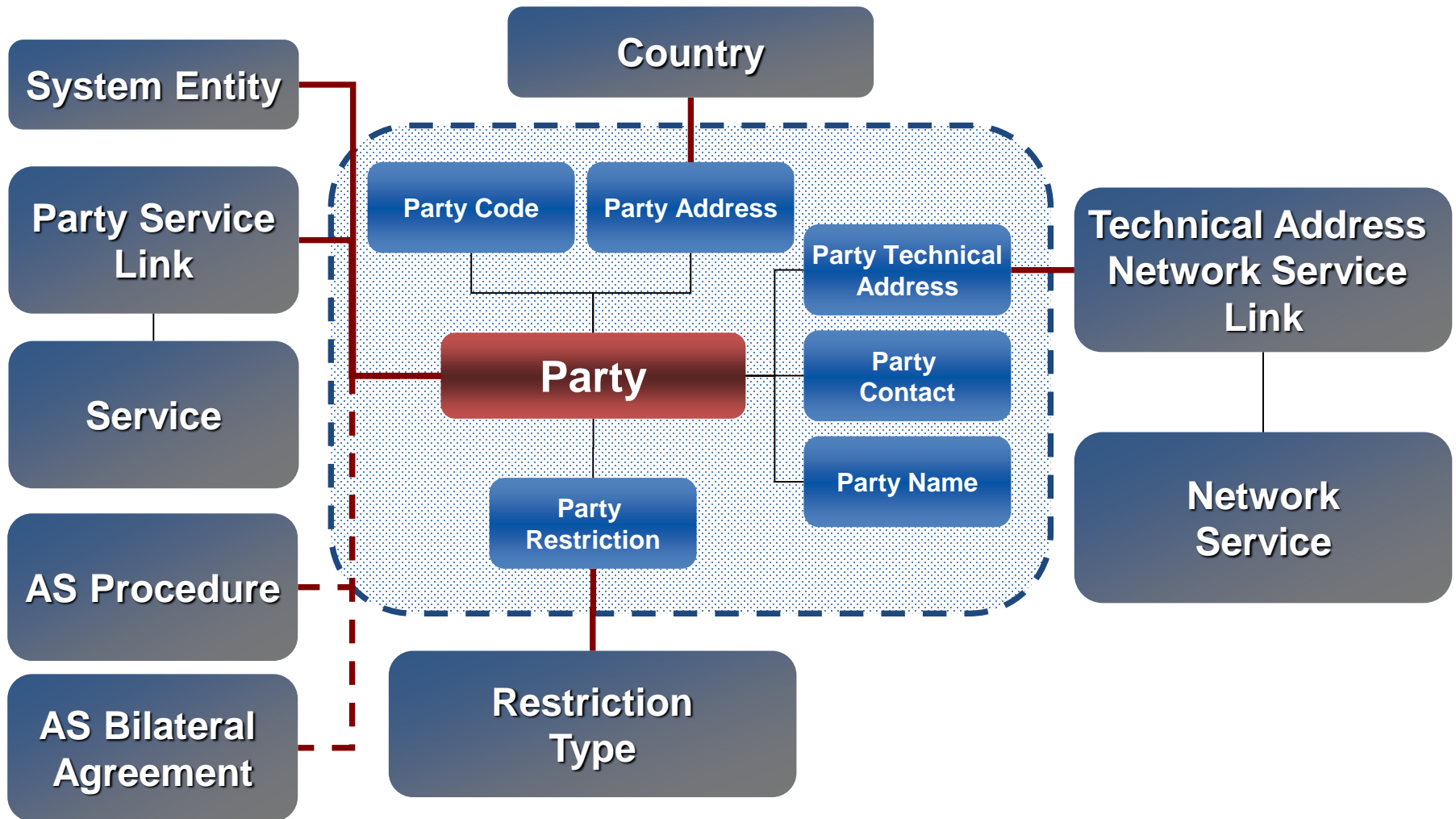
# CRDM Objects – Party

- Ancillary System Parties have additional configuration objects defining the technical Procedures they use and, for certain Procedures, the Bilateral Agreements with other AS for cross-AS liquidity transfers.





# CRDM Objects – Party



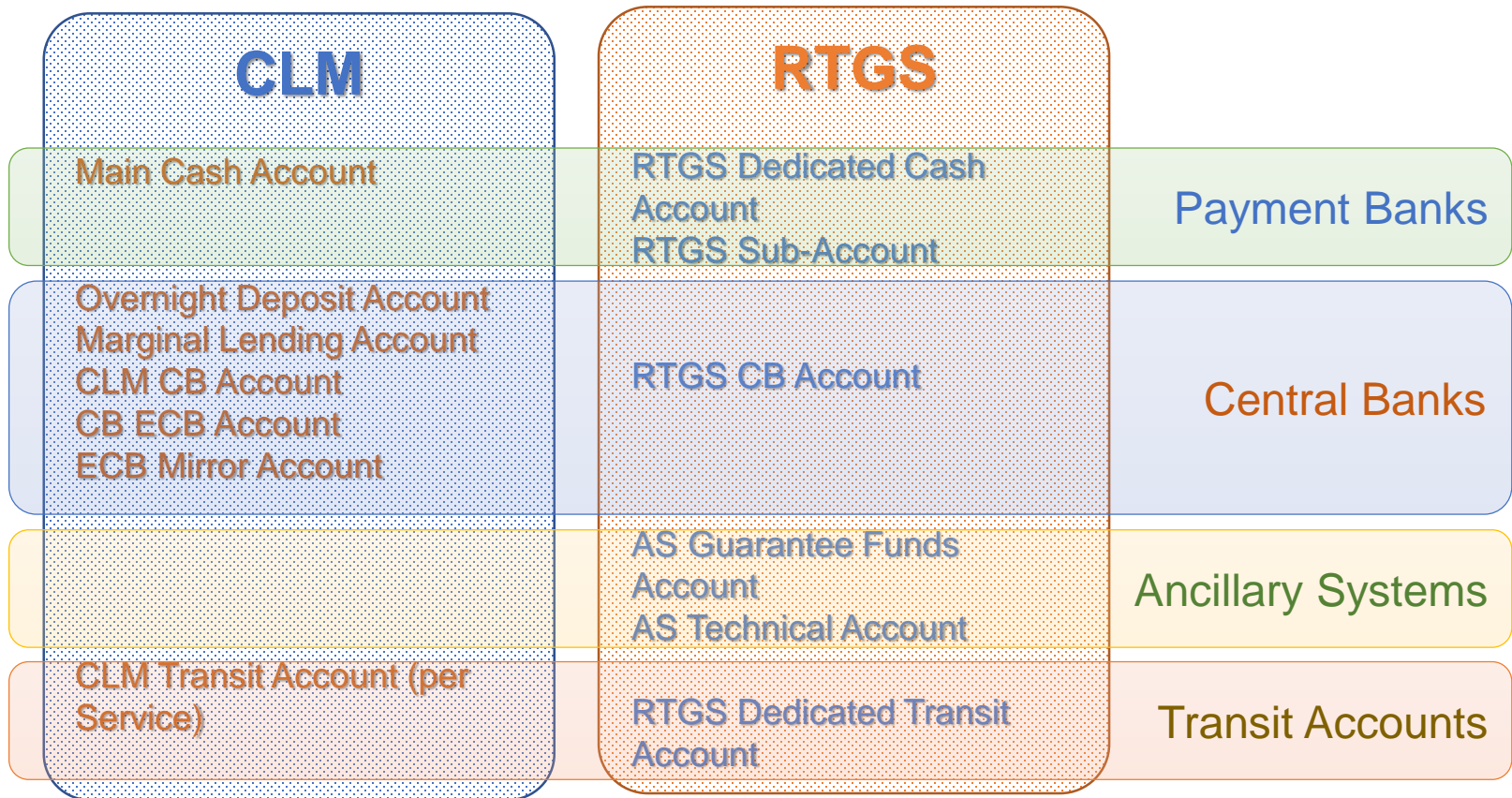
# 2. Reference data objects

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Cash Account data

# CRDM Objects – Cash Account

- CRDM allows to define Cash Accounts for different Settlement Services defined in a Settlement Currency for the specific Service.
- The possible types of Cash Accounts for T2 are listed below.



# CRDM Objects – Cash Account

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- In addition to CLM/RTGS Cash Accounts, it is possible to define **Contingency Accounts (for ECONS-II use)**
  - PB Contingency Cash Account
  - CB Contingency Account
  - AS Contingency Technical Account
  - ECB Contingency Transit Account
- Specific types of Cash Accounts contain **links** towards other types of Cash Accounts for a variety of purposes.
  - RTGS Sub-Account → RTGS DCA (*DCA related to the sub-account*)
  - Overnight Deposit Account → Main Cash Account (*MCA of the Account holder authorised to instruct on the account*)
  - Marginal Lending Account → Main Cash Account (*MCA of the Account holder authorised to instruct on the account*)
  - Contingency Cash Account → Main Cash Account (*mapping of contingency accounts*)
  - RTGS DCA → Main Cash Account (*mapping of contingency accounts*)
  - CB Contingency Account → CLM CB Account (*mapping of contingency accounts*)
  - [Explainer on Links in T2, T2S and TIPS](#) in *Knowledge-based repository*  
[Home](#) > [Payments & Markets](#) > [TARGET services](#) > [T2-T2S consolidation](#) > [For professional use](#)
- Main Cash Accounts and RTGS DCA can be linked in 1:1 relationships through the **Associated LT Account** attribute in order to enable automated Liquidity Transfers between them.  
(i.e. conditional link in case MCA and RTGS DCAs are open, between MCA and one RTGS DCA)

# CRDM Objects – Cash Account

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- Cash Accounts contain attributes for **minimum reserve configuration** (for Eurosystem institutions).
- Cash Accounts contain attributes for the definition of **floor/ceiling** configurations.
  - Floor threshold
  - Ceiling threshold
  - Target amount after breaching floor
  - Target amount after breaching ceiling
  - Notification flag for floor breach
  - Notification flag for ceiling breach
- In addition it is possible to configure **Rule-Based Liquidity Transfer Orders** to automatically transfer liquidity from one account to another in the event of a floor or ceiling breach.
- [Explainer on automated and rule-based liquidity transfers](#) in *Knowledge-based repository*  
[Home](#) > [Payments & Markets](#) > [TARGET services](#) > [T2-T2S consolidation](#) > [For professional use](#)

# CRDM Objects – Authorised Account User

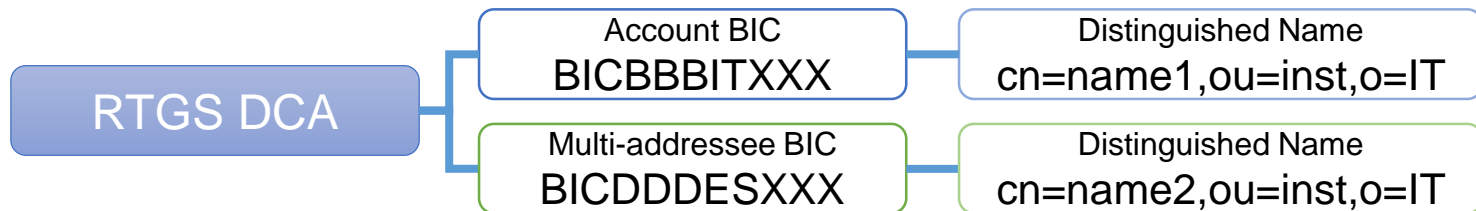
- Authorised Account User allows to define, for specific types of Cash Accounts, the relevant **Account BIC** to identify them
- Without an Account BIC, Cash Accounts cannot be used in CLM/RTGS
- In addition, RTGS Cash Accounts may have multiple Authorised Account Users defining **Multi-addressee**, **Addressable BIC** and **Indirect** participation in RTGS (**Indirect** participation is supported by the system however not used in T2; instead participants known as indirect participants in today's TARGET2 can be registered as Addressable BIC in T2)
- Multi-addressee configurations allow the use of **wildcards**.



# CRDM Objects – DN-BIC Routing

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- Given an Authorised Account User (Account BIC or Multi-Addressee), it is possible to define a related technical address (in the form of a **Distinguished Name**) for the routing of outgoing communication specific to the account.
- This configuration is not relevant for CLM.



# CRDM Objects – Liquidity Transfer Order

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- CRDM allows to configure **Liquidity Transfer Orders** to trigger liquidity transfers in different services on a pre-determined basis
- For T2, two types of LTO are possible:
  - **Standing Orders**: executed repeatedly for a set number of days at a certain time, starting and ending at a predefined date
  - **Rule-Based Floor/Ceiling Orders**: executed upon breach of a floor/ceiling threshold
- Standing Orders can be triggered upon reaching a specific business day **event** or linked to an **Ancillary System procedure**

*Remark: The respective Services, e.g. RTGS are used to for current orders, LTO with immediate effect.*

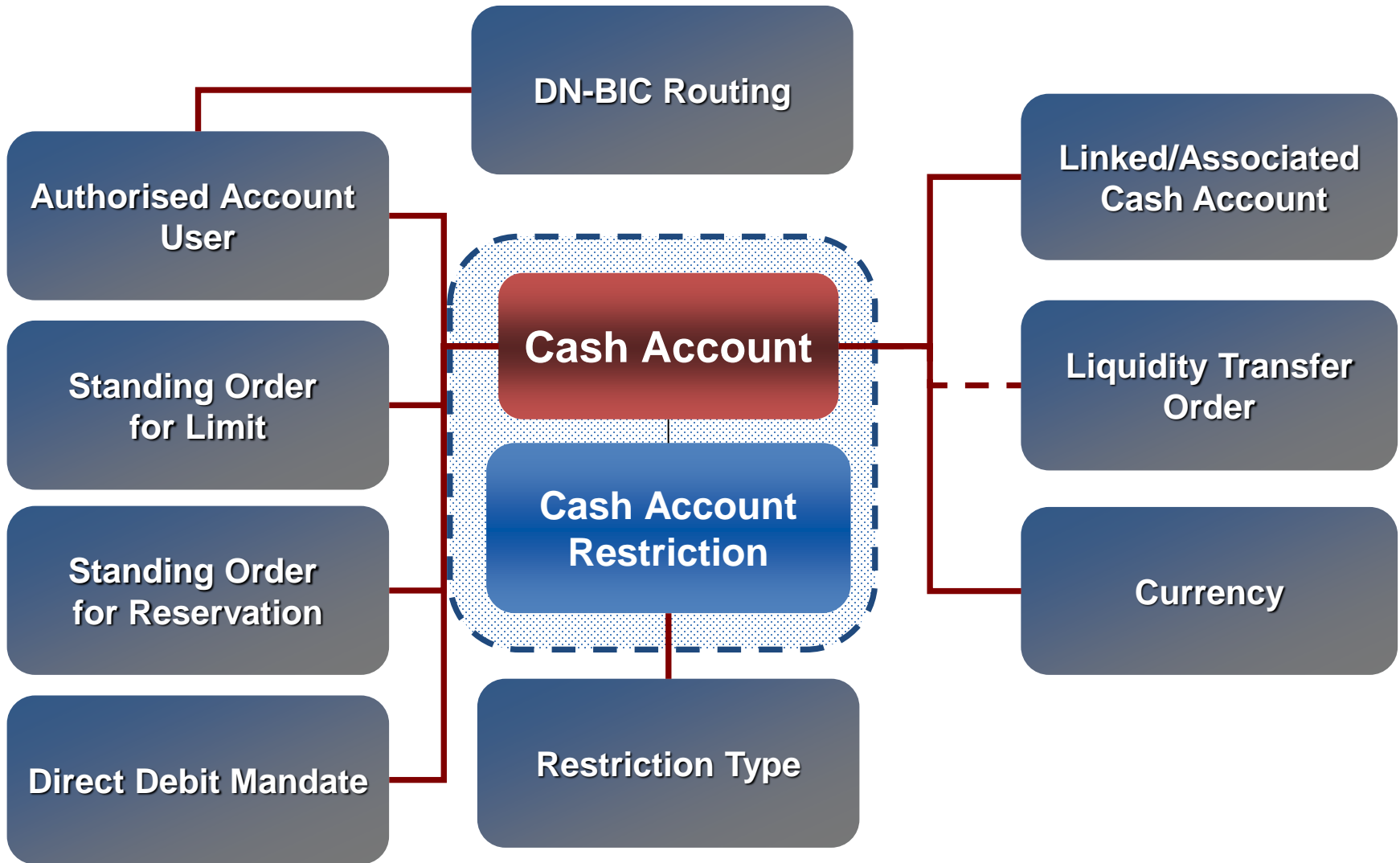


# CRDM Objects – Limits, Reservations, Direct Debits

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- CRDM allows to define **Standing Orders for Limits** on RTGS DCAs.
  - Limits can be **bi-** or **multilateral**.
- **Standing Orders for Reservations** may also be defined on RTGS DCAs or Main Cash Accounts with a dedicated **priority** attribute.
- **Direct Debit Mandates** may be defined on RTGS DCAs, RTGS CB Accounts and MCAs.

# CRDM Objects – Cash Account



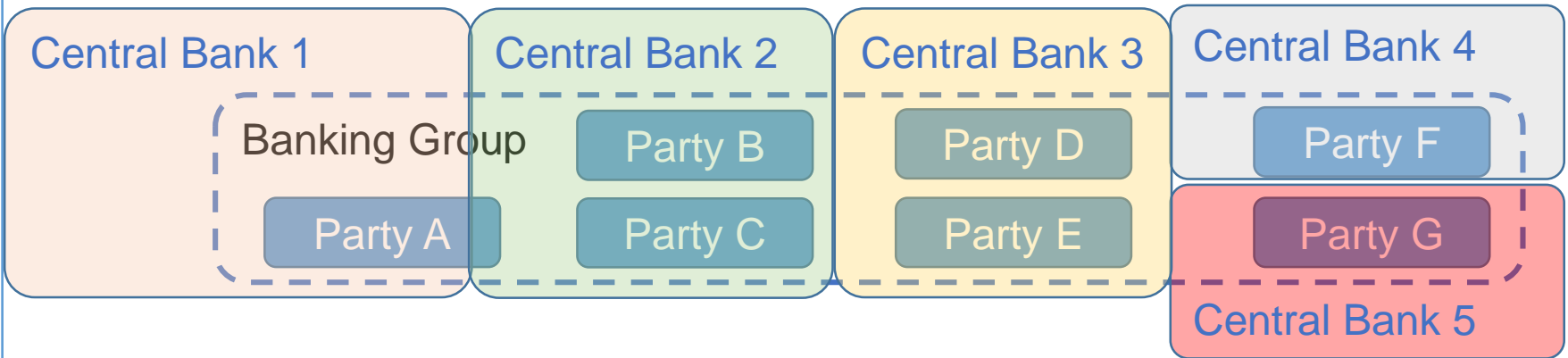
# 2. Reference data objects

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Data aggregations

# CRDM Objects – Data Aggregations

- **Data Aggregations** allow to create customised groupings of Parties or Cash Accounts for specific purposes.
- The following types exist:
  - Banking Group
  - Account Monitoring Group
  - Settlement Bank Account Group
  - Liquidity Transfer Group
  - Billing Group
- All types of Data Aggregation follow the same principle: one Party is responsible for the setup of the group while other Parties are allowed to include their data



# 2. Reference data objects

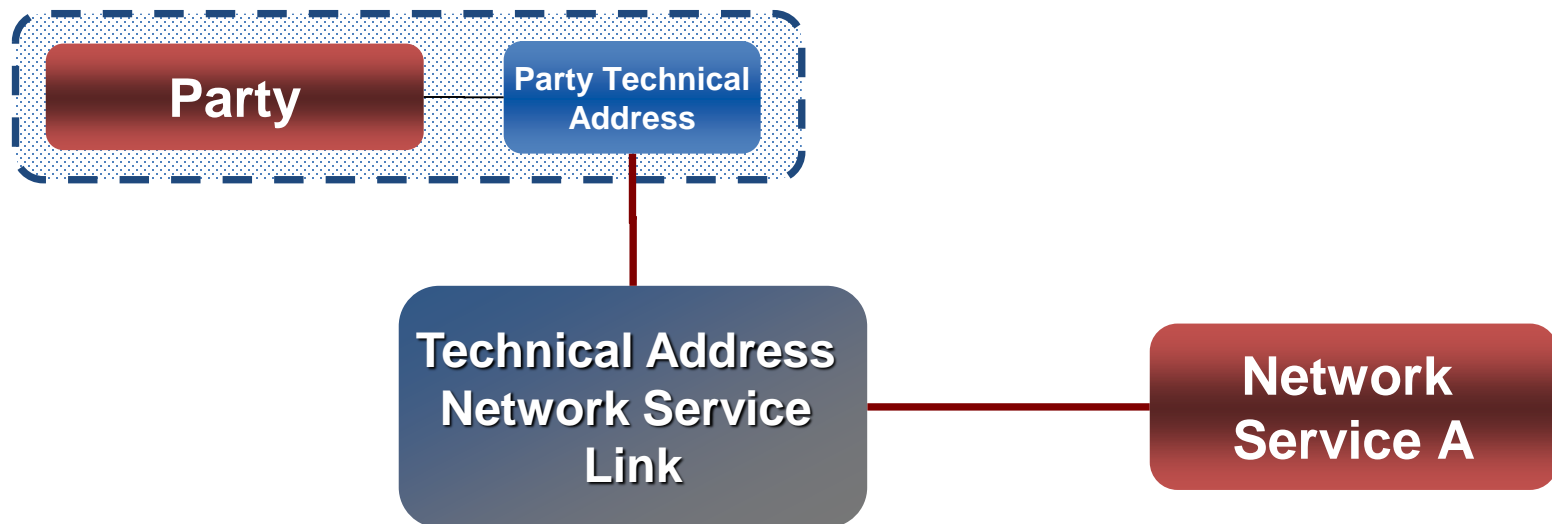
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Network configuration

# CRDM Objects – Network Configuration

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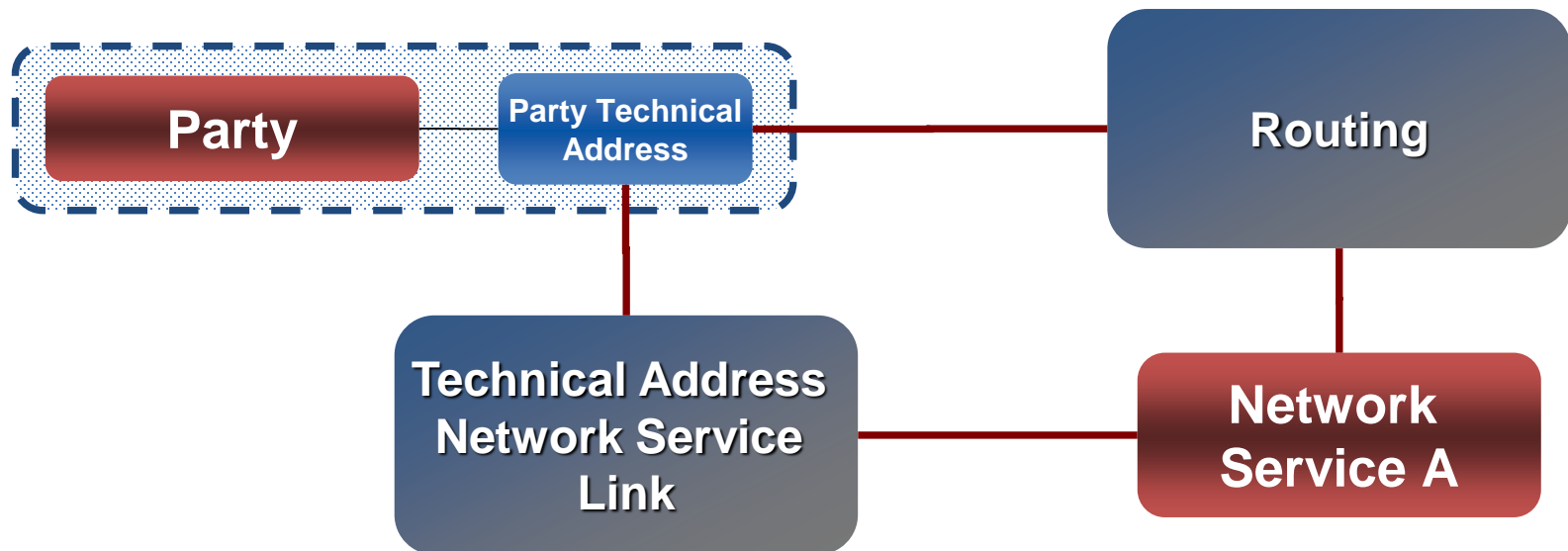
- **Network Services** identify the possible technical services used to exchange business data in the various Services/components. They are defined by the Service operator in CRDM.
- Each Party may have one or more **technical addresses**, linked to the relevant Network Service. (e.g. T2CLM.SIA-COLT.FILESNF or T2CLM.SWIFT.MSGSNF)



## CRDM Objects – Network Configuration

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- **Routing configurations** are defined by each Party.
- Individual Services/components apply mandatory routing for specific types of communications (e.g. errors on inbound messages or query results) – no configuration applies in this case.
- In addition, Parties can define **default** and **conditional routing** configurations.



# 2. Reference data objects

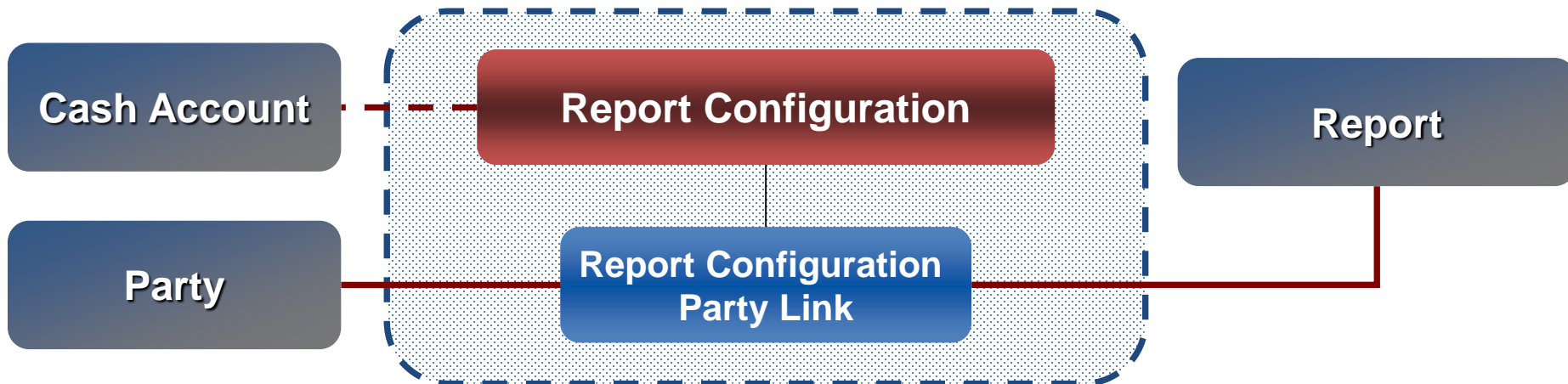
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Report configuration and Message Subscription



## CRDM Objects – Report Configuration

- CRDM allows to configure the generation and sending of reports for users of specific Services/components.
- The reports contain data relevant for each specific receiving Party.
- CLM/RTGS Reports can also be configured for a specific Cash Account.
- The available **report types** are
  - CLM Statement of Accounts
  - RTGS Statement of Accounts
  - CLM Repository (Full and Update version) (only for CBs/CBO support)
  - RTGS Directory (Full and Update version)



# CRDM Objects – Report Configuration

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- The RTGS Directory provides information to support the routing of payments in RTGS. (It is generated at 17.00 hours, every business day)
- It includes the list of published BICs for RTGS Participants and parties that are addressable within RTGS, with the relevant changes occurred since the last report generation.

RTGS Directory
BIC
Addressee BIC
Account BIC
Institution Name
City Heading
National Sorting Code
Main BIC Flag
Type of Change
Valid From
Valid To
Participation Type

- The content of the RTGS directory is extracted based on CRDM data (Cash Account, Authorised Account User, Party)
- CBs can exclude specific Cash Accounts from inclusion in the RTGS Directory by means of a dedicated «non-published» flag
- The RTGS Directory can be configured to be sent in push mode via Report Configuration or downloaded in pull mode from a dedicated GUI screen.

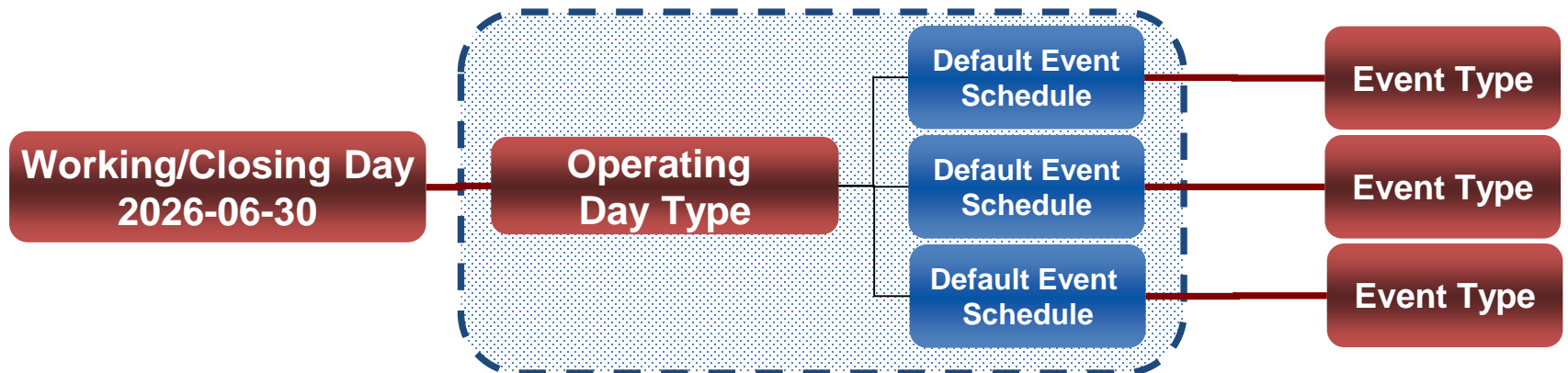
## CRDM Objects – Business Day Management

- **Events** correspond to cut-offs and business processes to be triggered in a given Service/component
- The Operator defines **Event Types** for a specific Service/component which may also be **currency-specific**
- **Operating Day Types** for each Service/component contain sets of Event Types with scheduling times, currency codes (if applicable) and predecessor-successor relationships

Event Type	Timestamp	Currency	Predecessors
Event Type A Currency-specific	12:00:00	EUR	n/a
Event Type B Non currency-specific	13:30:00	n/a	A
Event Type C Non currency-specific	14:00:00	n/a	A, B

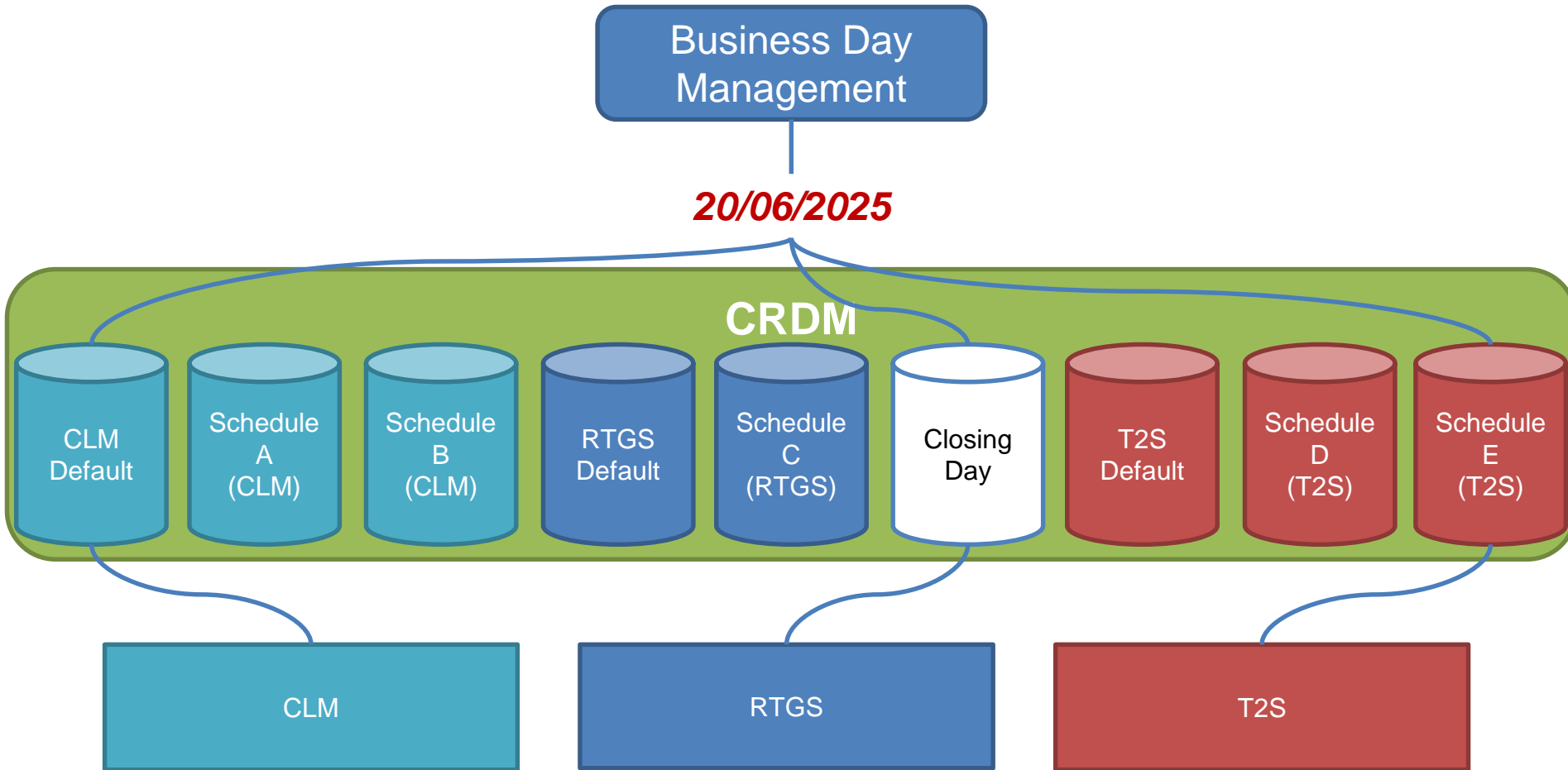
# CRDM Objects – Business Day Management

- CRDM also allows to define the **calendar** for each Service/component by setting up a list of closing days for the whole Service/component or for specific currencies, as well as business day schedules deviating from the default setup for a given business date



# CRDM Objects – Business Day Management

- Data for Business Day Management in CRDM is defined per Service/component



# 3. Access Rights

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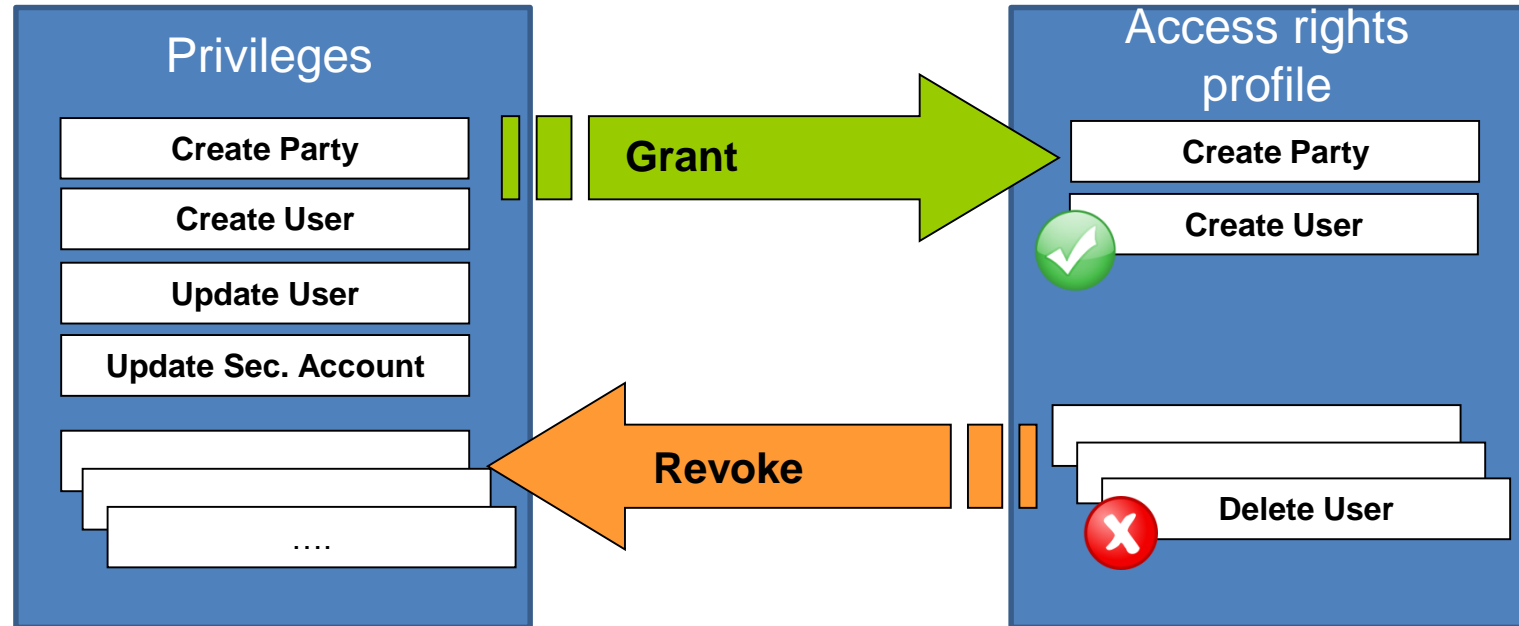
# Access Rights

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- Users can interact with CRDM and other services/components in three modes:
  - U2A, via GUI interface
  - A2A, via XML messages or files
  - Via Data Migration Tool (DMT) (for system entities only e.g. CBs)
- A **user function** is any possible action a user can trigger in a given component or Service
  - E.g. creating a Party, sending a payment, querying a cash account
- A **system user** is any individual or application authorised to interact with a Service/component
  - Each User is linked to a unique Party
- The **access rights profile** of a system user is determined by the set of granted roles and privileges

# Access Rights

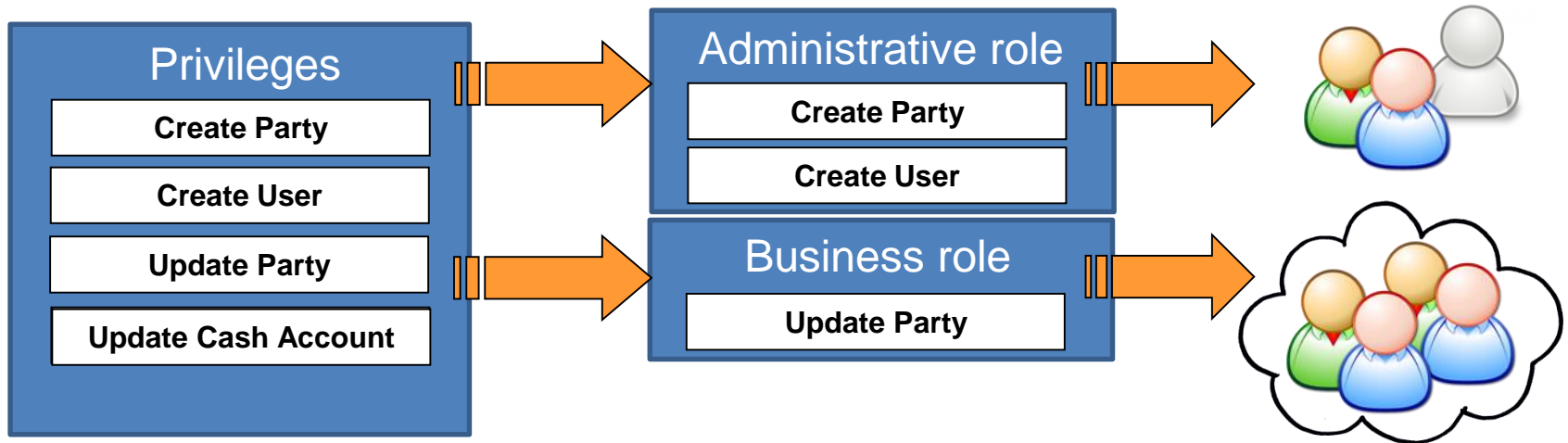
- A **privilege** identifies the ability for an individual or application to trigger a particular user function in a specific Service/component.





# Access Rights

- Privileges can be grouped into Roles. CBs can create their own Roles and assign them to their participants.
- CLM/RTGS Privileges can only be assigned to Users and Parties through Roles.



# Access Rights

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- Privileges can be classified into two categories:
  - **System privilege** refers to a user function that does not apply to a specific data object (e.g. a query on the current phase of the settlement day)
  - **Object privilege** refers to a user function that applies to a specific data object or group of reference data objects (e.g. a user function to display the reference data of a Cash Account)
- A system or object privilege can be granted to a User, Role or Party.
- CLM/RTGS privileges present two exceptions:
  - CLM/RTGS privileges can only be granted to Roles, and those Roles are then granted to Users/Parties
  - CLM/RTGS do not use object privileges.

# Access Rights

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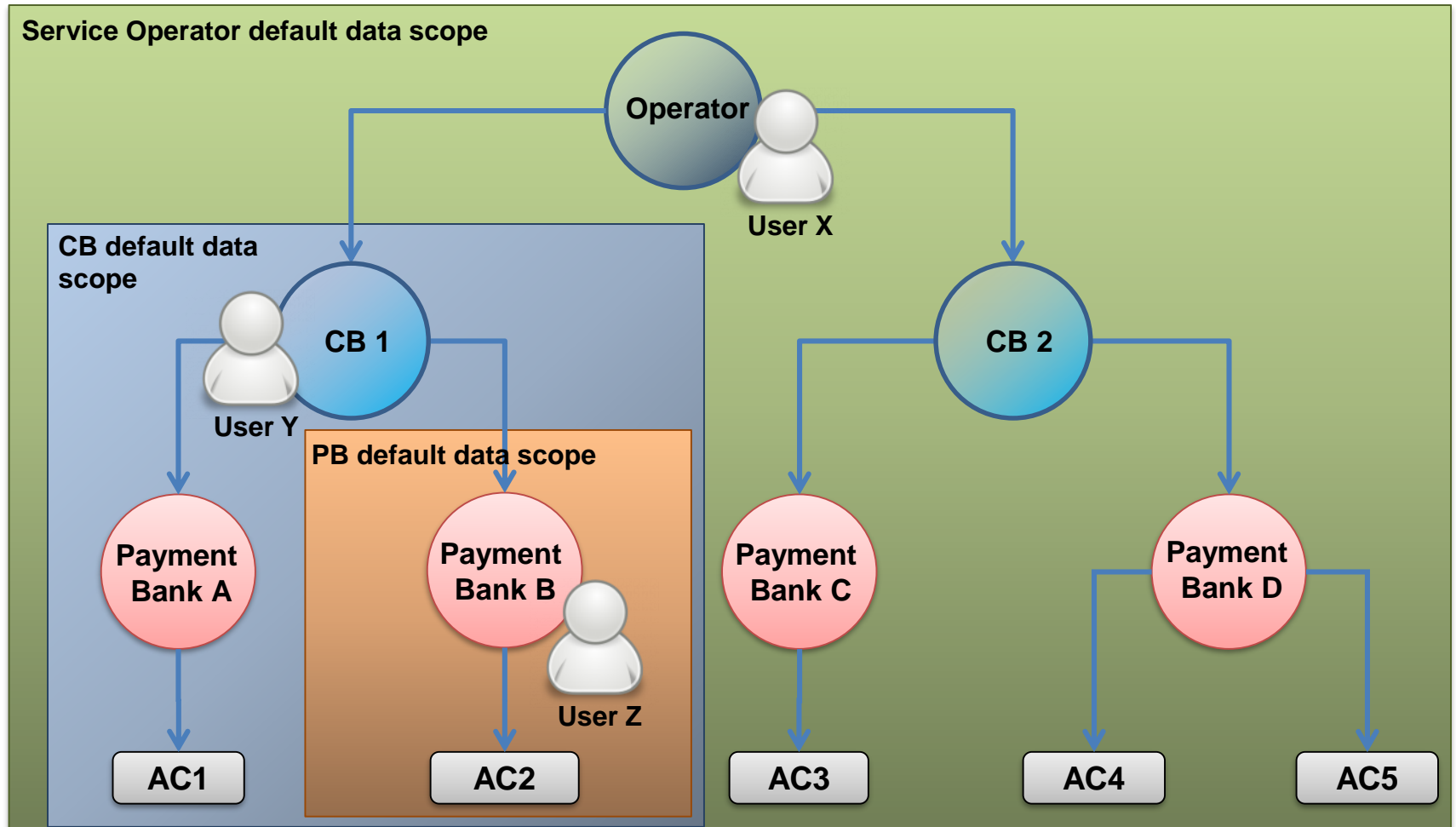
- Additional boolean attributes determine specific features for each privilege assignment
  - **Administration**
    - If set to „true“, it enables administrative rights on such privilege
    - Depending on the grantor duties, it enables to grant the same privilege:
      - to parties under the same system entity
      - or to user and roles under the same party
  - **4-Eyes**
    - If set to „true“, a confirmation is needed in order to trigger the specific privilege
    - The option is relevant only when Deny is set to false
    - It is not relevant for privileges related to queries
  - **Deny**
    - The option specifies whether the associated user function is allowed or explicitly denied
- Privileges cannot be assigned with contradicting flags (e.g. the same Privilege with Deny flag TRUE and FALSE).

# Access Rights

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- The **data scope** is determined by the hierarchical party structure:
  - Each system user is linked to one Party
  - This information determines the system user's access to relevant data
- For each privilege, the hierarchical party model determines the **default data scope** of the grantee user.
  - Operator users have visibility on all data, and can act on objects belonging to participants only in exceptional circumstances
  - CB users have visibility on all data belonging to their system entity
  - Payment Bank and Ancillary System users have visibility on data objects that are linked to their party.
- The default data scope can be extended or reduced by means of **object privileges or co-management**.
  - Object privileges are not available in CLM/RTGS.
- Co-management is defined at Cash Account level for CLM Accounts. It allows a third party to assume the rights of the Cash Account owner on a number of functions.  
[Explainer on Co-Management](#) and [Explainer on Co-Management – Example Scenarios](#) via in *Knowledge-based repository*  
[Home](#) > [Payments & Markets](#) > [TARGET services](#) > [T2-T2S consolidation](#) > [For professional use](#)

# Access Rights

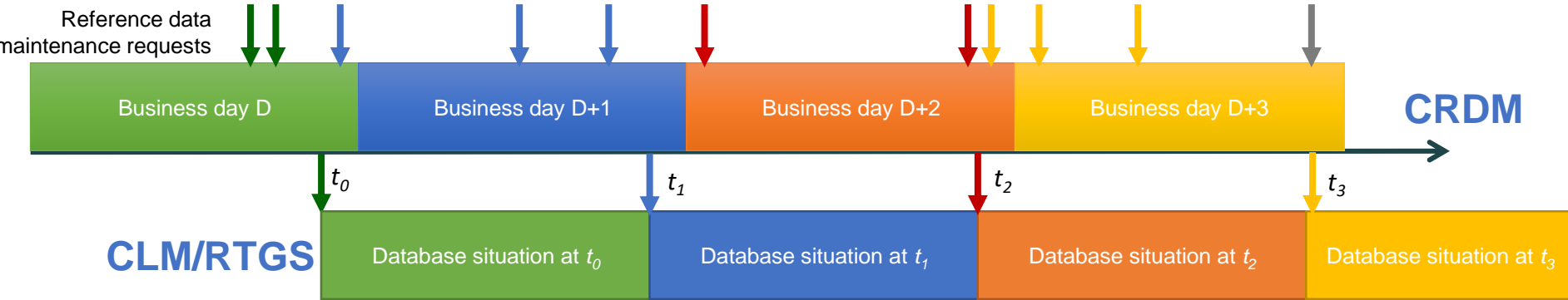


# 4. Data propagation

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# Data Propagation

- CRDM functions are available throughout the business day and changes are executed with immediate effect, but the results are made available to CLM/RTGS on a daily basis.



- If data is not fully configured before the propagation, it may not be usable in CLM/RTGS.
  - E.g. Cash Accounts require an Account BIC; CLM Account Holders must have an MCA defined

# Data Propagation

- The only types of reference data updates that are propagated with immediate effect are **blocking** and **unblocking** operations on Parties and Cash Accounts.

