



Private Markets Guide

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INTRODUCTION

HAZELTREE

Hazeltree Private Markets™ is a cash and liquidity management solution integrated in the Hazeltree application as a dedicated module. The Private Markets module helps financial organizations transform their treasury operations into performance. The Private Markets module is designed for private equity, private credit, real estate, infrastructure fund sponsors and related ventures.

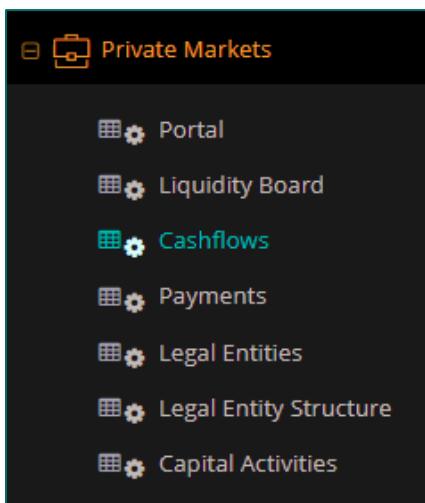
Developed as a cash and transaction management system, the Private Markets module enables clients to effectively manage their Fund' cash and Investor Capital Activities. General partners benefit from operational efficiencies and controls, reduced risk and exposure, as well as greater performance opportunities.

Business-wise, the Private Markets module allows clients to develop and track business deals, schedule future financial operations and estimate financial projections. Additionally, the module is used for planning investments and communicating with investors.

PRIVATE MARKETS KEY FEATURES

- ✓ **Cashboard view and analysis of all available liquid assets**, in all currencies, across all banking and counterparty relationships.
- ✓ **Embedded Transaction Manager** to support complex cash transactions with fully customizable workflow and multilevel approval management. That includes fully featured payment solution with SWIFT, SFTP, and API connectivity.
- ✓ **Legal Entities management** to create, support and manage complex, hierarchical Legal Entity structures. The Legal Entity management screen is presented in two versions.
- ✓ **Projections Management** to build cash projections in real time across multiple time dimensions and various transaction type scenarios.
- ✓ **Investor notice management** to auto-generate custom designed investor Capital Calls, Capital Distributions and other Capital activity based on cashflows, investor holdings, fund positions, and Legal Entities.

The Private Markets module contains seven screens:



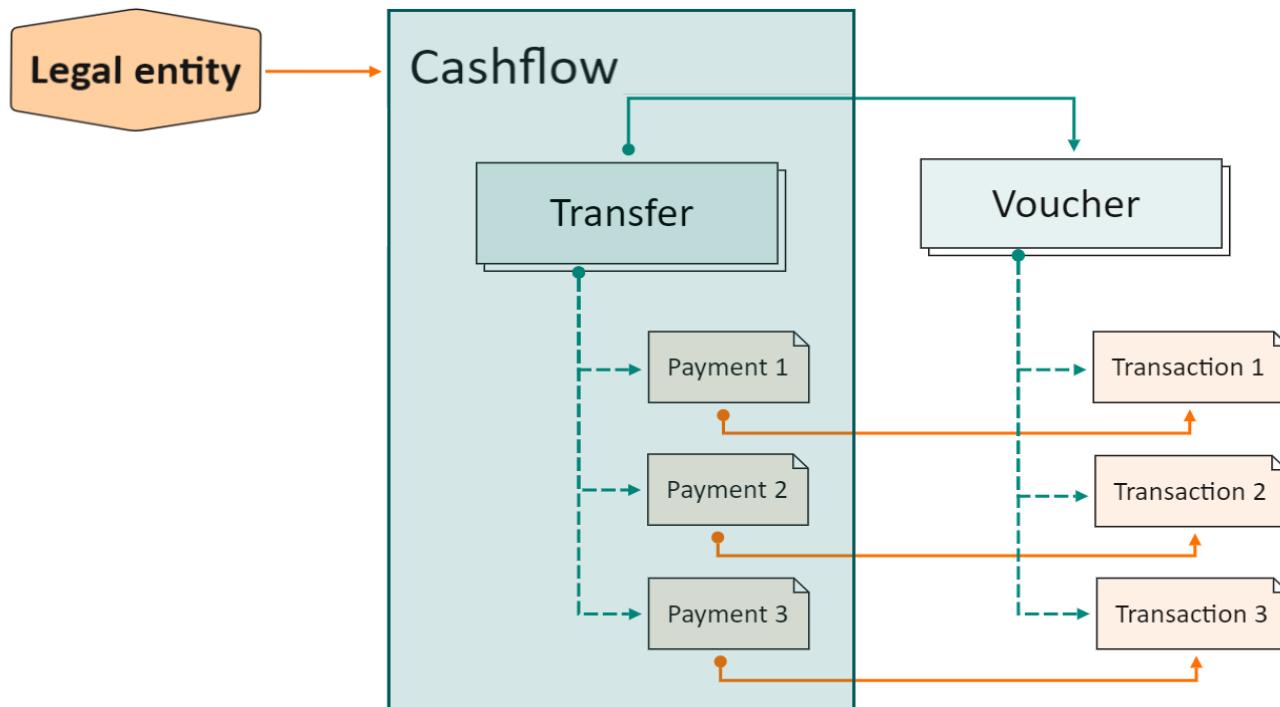
- [**Portal**](#): contains a selection of Cashflow-type widgets that can be configured and deployed in the working area.
- [**Liquidity Board**](#): contains a management grid that consolidates the financial details of existing Legal Entities: Holdings and Positions.
- [**Cashflows**](#): contains a management grid that aggregates Cashflows and the Cashflow Editor tool.
- [**Payments**](#): contains a management grid that aggregates all Payments produced by the Cashflows.
- [**Legal Entities**](#): contains a management grid that aggregates all Legal Entities and a Legal Entity Editor tool.
- [**Legal Entity Structure**](#): displays the Legal Entities in hierarchical tree mode and provides with Legal Entity Editor tool.
- [**Capital Activities**](#): contains a management grid that aggregates all Vouchers.

PRIVATE MARKETS LOGIC STRUCTURE

Private Markets module logically combines Legal Entities, Cash Management Reference Data, Cashflows, Cashboard, Projections, and Investor Communication Infrastructure. It allows users to build different workflows and create various analysis tools. The crucial component of Private Markets module that provides the Treasury Operations vertical management and allows users to create and control the financial movements is called **Cashflow**.

Term: **Cashflow** is a primary instrument of Private Markets. It is a multicomponent unit that represents a business operation. Cashflow aggregates all transactions of the operation and related financial movements. Cashflow has a configurable lifespan and allows users to post vouchers emerging from Cashflow Transfers.

Cashflow logical structure is presented on the schema below:



Term: **Legal Entity** is a unit that represents the company's partners, financial institutions, and business parties: *Investors, Funds, Issuers, Banks*, etc. Legal Entity relates to the Cashflow as a participant of the business operation. Legal Entity can have a multilevel structure that determines its business relationship details.

Term: **Transfer** is a Cashflow component that represents a set of projected money movements. Transfer aggregates Payments and contains basic details of money movements: *Target and Settlement Date, Expected and Actual Payments*, etc. Transfer can be posted and thereby converted into a live Voucher.

Term: **Payment** is a Transfer component that represents a single money movement projection. Payment contains basic transaction details: *From/To sides, Amount, Type*, etc. Payments of all existing Cashflows are displayed on a dedicated Payments screen. Just as Transfers can be posted and converted into Vouchers, Payments can be posted and converted into Transactions. **NOTE!** A Payment can only be posted as a part of a Transfer, there is no possibility to post it separately on its own.

Treasury Operations in the Private Markets industry are managed in a vertical style: Legal Entity → Cashflow → Transfer → Payment. This way, Cashflow is created for a Legal Entity, and then groups of transfers and payments.

INFO! The technical implementation of the above logic schema is accompanied with options that allow users to build Cashflows explicitly and transparently. In summary, the Private Markets module is a highly detailed financial planner that takes account of every business aspect.

The Cashflow's goal is to become a complete representation of a business operation and to produce transactions which fulfill the required cash exchange.

EXAMPLE

The user creates a **Cashflow** that represents a business investment of \$5.000.000. It is officially pronounced that the first money tranche will be executed in two transactions. The user creates a Transfer which contains two Payments and fills in the required details:

The screenshot shows the HazelTree software interface for managing financial entities. At the top, there is a header bar with various buttons and a search bar. Below it, the main workspace is divided into several sections:

- Left Panel (Cashflow Details - DOC1 Cashflow):** Shows basic details like Code (DOC1), Name (DOC1 Cashflow), Type (Deal), Effective Date (7/23/2020), and Settlement Date (7/30/2020). A 'Fund' dropdown is set to 'Sound Retirement Trust' and an 'Investor' dropdown is set to 'National Retirement Fund'. A circled '1' is placed near the Type field.
- Bottom Left (Transfer: TRNS1):** Shows a list of transfers. One transfer is selected, labeled 'TRNS1', with a Type of 'Asset Purchase' and a Settlement Date of '7/30/2020'. A circled '3' is placed near this row.
- Bottom Right (Transfer Details):** A modal window titled 'Transfer: TRNS1' displays the details of the selected transfer. It has tabs for 'Details', 'Payments', 'Attributes', 'Attachments', 'References', 'Outputs Preview', and 'Audit'. The 'Details' tab is active, showing a table with columns: Type, Status, From, From Name, To, To Name, CCY, and Amount. Two rows are listed: 'Return of Capital' (Status: Entered, From: 137516, To: 28768, CCY: USD, Amount: 280,000.00) and 'Income' (Status: Entered, From: 150817, To: 177723, CCY: USD, Amount: 900,000.00). A circled '4' is placed near the table.

1. **Cashflow** with specified details of the established business deal.
2. **Legal Entity** that is divided into two units: Investor and Fund.
3. **Transfer** that represents the first money tranche of the business agreement.
4. **Payments** that represent two transactions of the initial tranche.

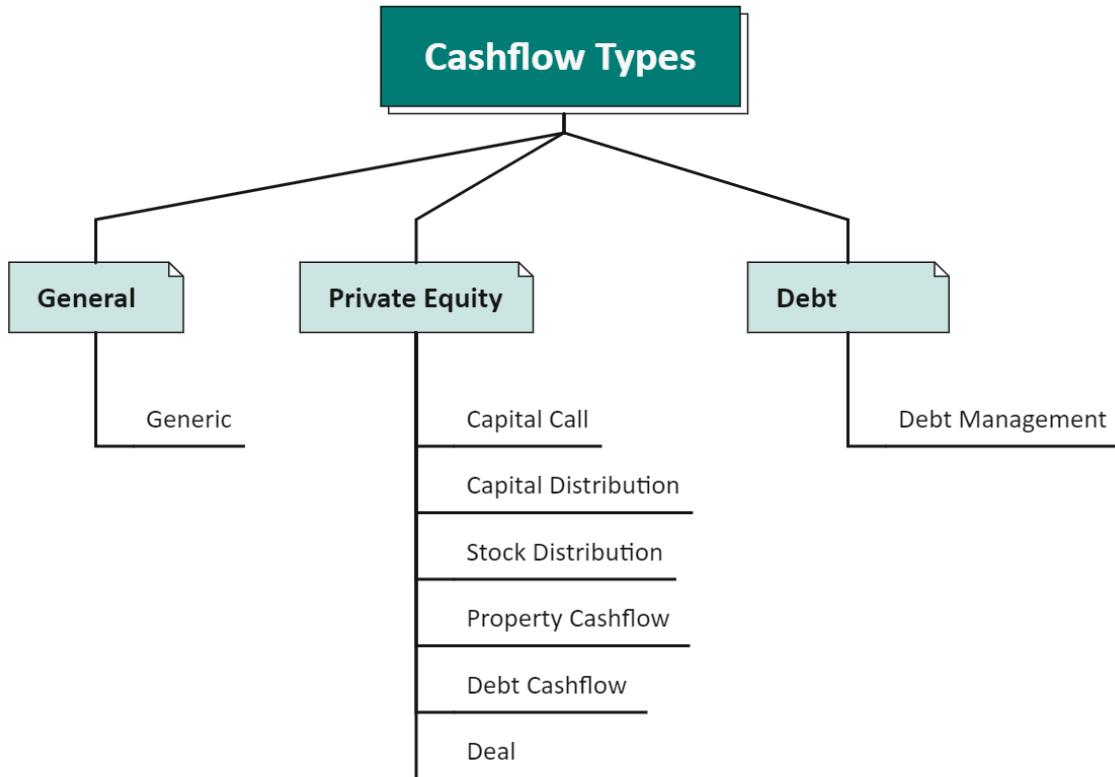
CASHFLOW TYPE

Cashflow Type is a basic attribute of the Cashflow entity that describes the business purpose of the Cashflow. **NOTE!** The Cashflow Types pool is formed during the HazelTree application implementation process and is based on the HazelTree client's requirements.

The Cashflow Types are divided into three major groups:

- **General:** different variations of budgeting business affairs.
- **Private Equity:** different variations of partnership contracts between two parties.
- **Debt:** private equity funds, before requesting money from their investors, take the money from a Credit Facility.

Every Hazeltree company-user can establish their personal collection of Cashflow Types of both groups. The schema below represents a possible configuration of Cashflow Types established by client's request (see next page):



CAPITAL CALL AND CAPITAL DISTRIBUTION

There are two types of Cashflows which are mostly used in Private Equity: **Capital Call** and **Capital Distribution**.

Term: **Capital Call**, also known as a draw-down on capital commitment, is a partial collection of the Investor's commitment to the Fund.

Term: **Capital Distribution** is a Cashflow used to communicate the capital gain/loss disbursement back to Investors allocated by the initial Investor contributions.

CAPITAL CALL AND CAPITAL DISTRIBUTION INFORMATION BLOCK

Both **Capital Call** and **Capital Distribution** types can be comprised of several Transfers: each for a certain amount and target date. Underlying Transfer and Payment Types describe further business details breakdown, for example various fees and granular types of collections or distributions. In turn, the Payment types also indicate direction of Capital movement from Investor to Fund and/or from Fund to Investor in order to properly reflect future liquidity projections.

One of the most valuable features offered by the Cashflows for **Distributions** and **Capital Calls** is the ability to generate a preview of the **Investor Notice**: a report that is usually delivered to the Investor in a specific format. This is implemented in the Cashflow through the preview of the Output Messages.

The delivery of the resulting Investor Notice is executed through a special **Communication Profile** entity. It is set up to define the delivery instructions of the Investor Notice through the email (or other transports) to the contacts associated with the Legal Entity. **Contacts** have specific function such as Recipient, Signer or CC depending on person's role in the organization which are used in designing Communication Profiles.

Hazeltree is a transactional system and each Investor Notice is registered as a money movement transaction regardless if the actual cash movement is directed from the system.

CAPITAL CALL AND CAPITAL DISTRIBUTION INFORMATION BLOCK (CONTINUATION)

Such treatment of cashflows allows Hazeltree Cash Manager to properly track and audit each cash transfer to reflect it in Projections and Liquidity Management, as well as balance calculations. Each Cashflow generates a Journal entry based on From/To/Amount/Settlement Date information in the payment which is then used in Projections Engine compilation to present overall future liquidity picture for analysis and decision making.

CAPITAL CALLS AND DISTRIBUTIONS IN PROJECTIONS

Private Market Cashflow types ultimately drive **Cash Projections** to anticipate cash demands in the future.

The clients get detailed transparency by managing future Cashflow amounts and settlement dates and properly attributing Private Market cashflow types. It is important to properly assign cashflow direction for the underlying accounts, as such if Cashflows are not fully detailed and missing account/payees Journal entries will not be generated and the projection analysis screen will not display required information.

CASHFLOWS

Cashflows is the Private Markets primary management grid-type screen. The Cashflows grid displays all existing Cashflows and allows users to operate them with available instruments. The Cashflow Editor represents a multi-section pop-up screen that allows users to create new Cashflows and edit existing ones.

The Cashflows screen interface is presented below:

The screenshot shows a grid of cashflow entries with various columns including Code, Name, Type, Fund, Investor, CCY, Target Amount, Minimal Amour, Current Amoun, Settle Amount, Status, Country, and Crea. A context menu is open over the third row, circled with number 3. Number 1 points to the top ribbon toolbar. Number 2 points to the grid header. Number 4 points to the bottom right corner of the grid.

Code	Name	Type	Fund	Investor	CCY	Target Amount	Minimal Amour	Current Amoun	Settle Amount	Status	Country	Crea
Fund A 100M ...	Fund A Capita...	Capital Call	Fund A - Energy	Washington State Inv...	USD	100,000,000.00		90,000,000.00	0.00	Entered	USA - United ...	11/14/2019
Fund A Vendo...	Fund A Partne...	Capital Call	Fund A - Energy	+ Add	USD	100,000,000.00		1,832,000.00	978,000.00	In Progress	USA - United ...	11/14/2019
Fund A Capita...	Fund A Capita...	Capital Distrib...	Fund A - Energy	Edit	USD	10,000,000.00		10,000,000.00	0.00	Entered	USA - United ...	11/19/2019
Fund A Manag...	Fund A Mana...	Capital Call	Fund A - Energy	Copy	USD	100,000,000.00		4,474,000.00	0.00	Entered	USA - United ...	12/4/2019
Fund A Inter...	Fund A Inter...	Deal	Fund A - Energy	Attachments	USD	100,000,000.00		2,612,000.00	0.00	Entered	USA - United ...	12/4/2019
Capital Call-20...	Copy of Fund ...	Capital Call	Fund A - Energy	View Fund	USD	100,000,000.00				Entered	USA - United ...	1/14/2020
Fund C Capita...	Fund C Capita...	Capital Distrib...	Fund C - Real Esta	View Investor	USD	800,000,000.00		800,000,000.00	0.00	Draft	USA - United ...	11/14/2019
Fund D 100m ...	Fund D Capita...	Capital Call	Fund D - Tactical	washington state inve...	USD	100,000,000.00		2,213,000.00	0.00	Entered	USA - United ...	11/15/2019
Fund D Vendo...	Fund D Mana...	Capital Call	Fund D - Tactical	Washington State Inve...	USD					Entered	USA - United ...	12/3/2019
Fund D Capita...	Fund D Capita...	Capital Distrib...	Fund D - Tactical	Washington State Inve...								

- Cashflows Upper toolbar:** the ribbon with basic filters and operational buttons.
- Cashflows grid:** displays existing Cashflows and their parameters. It also contains a built-in Cashflow Editor.
- Context menu:** called with a right click and displays actions that can be executed against the selected Cashflow.
- Advanced Search:** special search option that allows to seek for a Cashflow using detailed filters.

UPPER TOOLBAR

Cashflows Upper toolbar contains a date range selector, numerous filters that allow to locate sought-for Cashflows and buttons that allow to operate with the Cashflow entities.

The Cashflows Upper toolbar is shown below:



- Search By:** dropdown that allows to switch the Cashflow search date parameter.
- From/To Date:** date selector that allows to filter displayed Cashflows by adjusting the date period.
- Legal Entity:** dropdown that allows to filter displayed Cashflows by an assigned Legal Entity.
- Status:** dropdown that allows to filter displayed Cashflows by their status.
- Add:** press the button to call the Cashflow Editor tool to create a new Cashflow entity.
- Edit:** press the button to call the Cashflow Editor tool to modify a highlighted Cashflow.
- Copy:** press the button to call the Copy Cashflow screen to create a copy of a highlighted Cashflow entity.

INFO! The Cashflow Upper toolbar operation buttons (**Add**, **Edit**, **Copy**) are also available in the context menu, which can be called by a right click on any Cashflow entity on the grid.

The Cashflows Upper toolbar instruments are explicitly described in the sections below.

SEARCH BY

Search By dropdown allows to select the search date parameter for the *From/To* date selector. It is possible for search for the Cashflow's *Created On* date, *Last Modified* date, *Settlement* date, etc. The *Pending* option triggers the Cashflows grid to display Cashflows in Pending statuses:

Cashflows		Search By
Drag a column header here to group by that column		
Code	Name	
Fund A 100M ...	Fund A Capita...	
Fund A Vendo...	Fund A Partne...	
Fund A Capita...	Fund A Capita...	
Fund A Manag...	Fund A Mana...	
Fund A Inter...	Fund A Inter...	

Pending

- Pending
- Created On
- Last Modified On
- Report Date
- Effective Date
- Target Date
- Settlement Date

FROM/TO DATE SELECTOR

From/To date selector is embedded into the Cashflows Upper toolbar and allows to filter Cashflow entities displayed on the grid by adjusting the date period. The date range selector uses Payment's date parameter selected in the Search By dropdown.

NOTE! The Cashflow grid still displays Cashflow entities which date parameter is out of the *From/To* selector range if they exist in the following statuses (Cashflow status can be checked in the corresponding column):

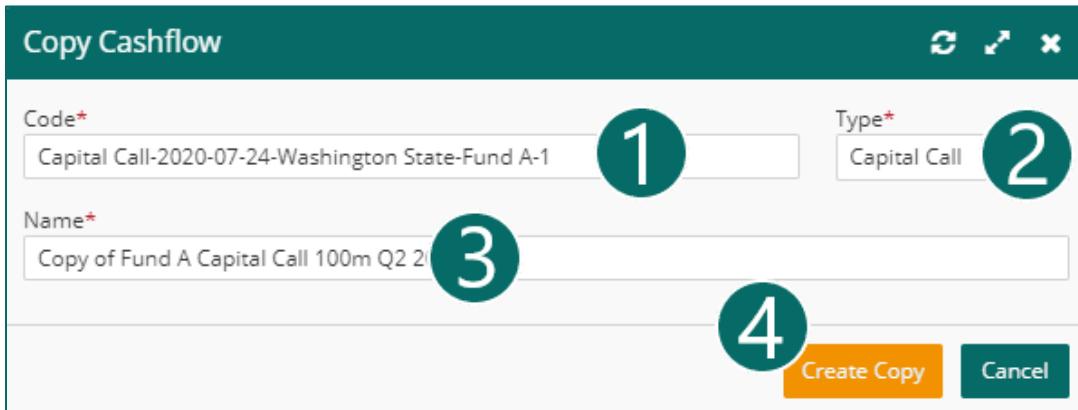
Cashflows		Search By	Pending
Drag a column header here to group by that column			
Code	Name	Type	Status
Fund A 100M ...	Fund A Capita...	Capital Call	Entered
Fund A Vendo...	Fund A Partne...	Capital Call	In Progress

- Draft
- Entered
- Pending Approval
- Rejected
- Failed
- In Progress

COPY CASHFLOW

Copy option on the Upper toolbar is used for creating a duplicate of an existing Cashflow. To copy a Cashflow, highlight one on the Cashflows grid and press Copy option (or utilize Copy context menu option). Then specify the parameters of the Cashflow duplicate on a Copy Cashflow pop-up screen and press *Create Copy* option.

The Copy Cashflow pop-up screen interface is presented below (see next page):



1. **Code***: specify a new Cashflow Code. The code is automatically created from parent Cashflow and reflects the Cashflow basic aspects. The code is available for editing and does not tolerate special symbols or spaces.
2. **Type***: pick an appropriate Type for the Cashflow copy. The Type is automatically inherited from parent Cashflow and is available for changing from the dropdown pool.
3. **Name***: create a new Cashflow Name. Name is automatically created from parent Cashflow with *Copy of* prefix. The name is available for editing and has no symbol restrictions.
4. **Create Copy**: press button to create a Cashflow copy with specified parameters. The Cashflow copy automatically populates the grid.

IMPORTANT! All fields of the Copy Cashflow pop-up screen are mandatory for specification and cannot be ignored. The Code of a Cashflow copy must be unique: in case the Code repeats an existing Cashflow's Code, the copy will not be created.

LEGAL ENTITY, STATUS & BUSINESS STATUS FILTERS

Legal Entity, Status and **Business Status** filters refer to the basic parameters of the Cashflows: assigned Legal Entity, current Status and Cashflow's Business Status parameter accordingly. It is possible to select multiple values in both filters:



ADD/EDIT CASHFLOW

Add and **Edit** Upper toolbar options are used to create a new Cashflow or modify an existing Cashflow accordingly. To create or edit a Cashflow, select Add/Edit option (or utilize Add/Edit context menu options). Both options call the **Cashflow Editor** screen:



Term: **Cashflow Editor** is a special instrument embedded in the Private Markets module that allows to create, manage, and control the Cashflow entities. The Cashflow Editor represents a multicomponent and multisection screen with a set of options and parameters that reflect all possible aspects of the business affair. The Cashflow Editor is used for active Cashflows maintenance during the whole lifespan and their Transfers realization.

The Cashflow Editor screen can be opened in two modes:

- **Add button**: calls New Cashflow screen which is a blank Cashflow model with empty parameters fields and blocked options bar.

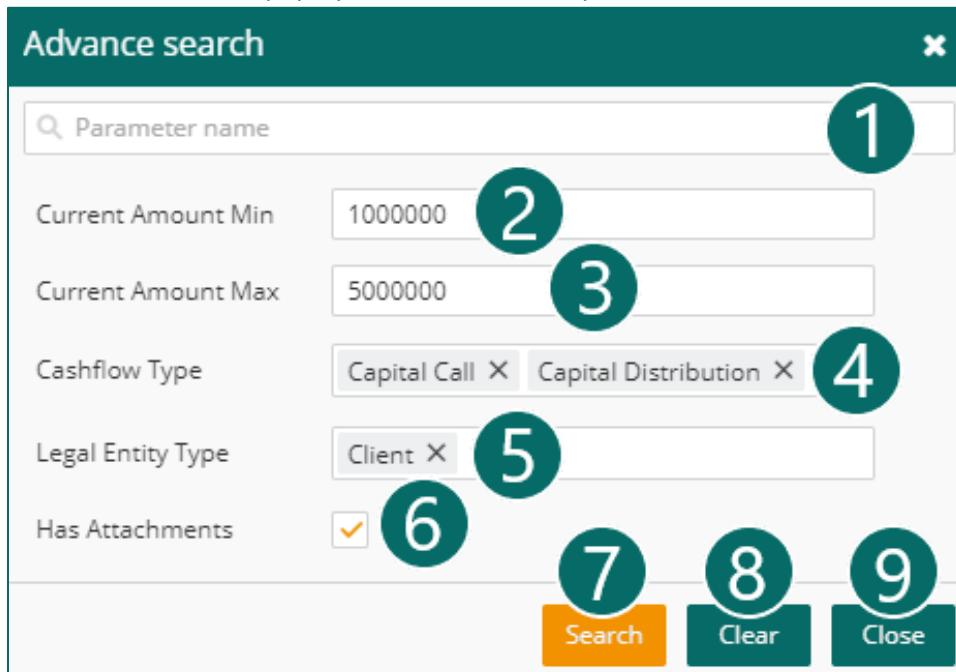
- **Edit button:** calls Cashflow Details screen which contains all previously specified Cashflow details. No options are blocked in this mode.

The Cashflow Editor is a complex multi-section tool that provides with practically unlimited options in terms of a Cashflow design. The Cashflow Editor is explicitly reviewed in the next chapter.

ADVANCED SEARCH

Advanced search is a special tool embedded in the Cashflows screen that allows to search for the Cashflows by parameters. To open the Advanced search pop-up screen, press on the magnifying glass icon next to the Search bar.

The Advanced search pop-up screen interface is presented below:



1. **Parameter:** search for the filter on the Advance Search pop-up screen.
2. **Current Amount Min:** filter the Cashflows by the lower bound of the Current Amount parameter.
3. **Current Amount Max:** filter the Cashflows by the upper bound of the Current Amount parameter.
4. **Cashflow Type:** filter the Cashflows by their Cashflow Types. Select sought-for Types from the dropdown.
5. **Legal Entity Type:** filter the Cashflows by their Legal Entities Types. Select sought-for Types from the dropdown.
6. **Has Attachments:** filter the Cashflows that carry attachments inside them.
7. **Search:** press to activate the search. The Cashflows grid automatically displays the Cashflows that fit in specified filters.
8. **Clear:** press to clear the filters on the Advance Search pop-up screen.
9. **Close:** press to close the Advance Search pop-up screen.

NOTE! The Advance Search specified parameters remain active until the user leaves the Cashflows screen. To keep filters saved on screen permanently, save the Cashflows screen as a private or a public screen.

CONTEXT MENU

Context menu is a set of options called by right click on a Cashflow entity on the Cashflows management grid. The context menu has three constant options and the options which depend on the individual Legal Entity parameters of the highlighted Cashflow.

The context menu options are reviewed in the table below:

Option	Description	Specification
Add	Opens New Cashflow screen. Analogue of Upper toolbar Add button	Constant option
Edit	Opens Cashflow Details screen. Analogue of Upper toolbar Edit button	Constant option
Copy	Opens Copy Cashflow screen. Analogue of Upper toolbar Copy button	Constant option
View Legal Entity	Opens Legal Entity Details with details of Cashflow's Legal Entity	Only available for non-private equity Cashflows and only if Legal Entity is specified
View Fund	Opens Legal Entity Details screen to review or edit selected Cashflow's Legal Entity	Only available for private equity Cashflows and only if Legal Entity is specified as Fund
View Investor	Opens Legal Entity Details screen to review or edit selected Cashflow's Legal Entity	Only available for private equity Cashflows and only if Legal Entity is specified as Investor

The screenshot shows a 'Cashflows' grid with columns for 'Code', 'Name', and 'Type'. A context menu is open over a row, listing the following options: '+ Add', 'Edit', 'Copy', 'Attachments', 'View Fund', and 'View Investor'. The 'Edit' option is highlighted with a large orange arrow pointing towards it.

CASHFLOW GRID

Cashflow grid displays Cashflow entities that fit in the frames of the Upper toolbar filters. Grid columns display parameters of the Cashflows and can be customized with the Grid Configurator tool.

LOCKED ON/LOCKED BY COLUMNS

Locked On and **Locked By** columns of the Cashflow grid show the summary information about a user that locked underlying Transfers: Username and Date when the Transfers were locked.

Locked By	Locked On
HSup	9/16/2020

CASHFLOW EDITOR

Cashflow Editor is an instrument designed for Cashflows creation, management, and maintenance. The Cashflow Editor represents a multi-section screen that can be called from the Cashflows grid with *Add* or *Edit* buttons. The Editor allows to provide a Cashflow with general information referring to the Cashflow business affair specifics, Transfers pool, Attachment section, References, Audit, and many additional settings for the Cashflow specification.

The Cashflow Editor screen interface is reviewed below:

1 Type * Capital Call

2

3

4 Save Save and Close Copy Lock Remove Cancel

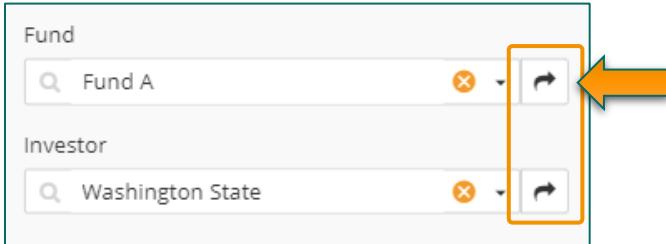
- Cashflow basic data section:** a block of settings that contains technical attributes, basic Cashflow business data and Legal Entities information.
- Cashflow tab bar:** a set of tabs that contain detailed parameters and internal instruments. Every tab disposes an individual workspace.
- Workspace:** a working area disposed by selected option. Every option has an individual workspace with a unique set of instruments.
- Operational buttons:** a set of buttons that allow to operate with an entire Cashflow entity. The set of operation buttons depends on the Cashflow origins and status.

The Cashflow Editor can be launched in two modes depending on what button (*Add* or *Edit*) is used:

- New Cashflow mode:** called with *Add* button.
- Cashflow Details mode:** called with *Edit* button.

IMPORTANT! Both screens vary about available operational buttons and Cashflow tab bar availability: the Cashflow Editor is the *New Cashflow mode* has the tabs unavailable and the operational buttons blocked unless the Cashflow is saved with specified mandatory parameters.

INFO! The Cashflow Editor contains a link leading to another Editor: [Legal Entity Editor](#). That allows users to modify the Legal Entities associated with the Cashflow directly from the screen. The link to the Legal Entity Editor is located next to the Fund/Investor code and has an arrow shape:



CASHFLOW GENERAL SETTINGS SECTION

Cashflow general settings section contains technical attributes, primary Cashflow business data and Legal Entities information. It is a start point of working with a Cashflow. All other options of the Cashflow Editor remain unavailable unless all mandatory fields of the general settings section are specified.

The Cashflow basic data section interface is reviewed below:

Code *	1	Name *	2	Type *	3	Settlement Date	4	Fund	10
Fund B 200m Q4 2019		Fund B Capital Call 200m Q3 2020		Capital Call		9/30/2020		Search: Fund B - Healthcare Fund	
Currency	5	Current Amount	6	Cashflow Business Status	7	Transfer Business Status	8	Status	9
USD		200,000,000.00		Data Gathering		Entered		Investor	11

1. **Code***: a short reasonable Code that defines Cashflow business purpose and used to find the Cashflow in the system. **IMPORTANT!** Code is assigned to the Cashflow at its creation, and it cannot be changed afterwards. Cashflow Code does not tolerate special symbols. This field is mandatory and becomes read-only after Cashflow is saved.
2. **Name***: an explicit Name that defines the Cashflow business reference. Cashflow Name is allowed to contain special symbols and spaces. This field is mandatory.
3. **Type***: an appropriate Type that defines the Cashflow's business nature. The dropdown collection of available Types is individual for every Hazeltree client and is assembled during the deployment process. This field is mandatory.
4. **Settlement Date**: the day of Cashflow's complete realization. **NOTE!** If specified, the same date will be automatically set for all Transfers and Payments of this Cashflow. Otherwise, it must be set manually for every Transfer and Payment.
5. **Currency**: basic currency of the Cashflow entity. It is always available for editing regardless of the Cashflow status.
6. **Current Amount***: total amount from all existing Cashflow Transfers and Payments considering the Payments' setting *Include in Cashflow Amount As*. This field is read-only and filled in automatically.
7. **Cashflow Business Status**: customer-specific field with the cashflow business statuses depending on the company.
8. **Transfer Business Status**: status value is calculated from the Transfers' statuses.
9. **Status***: status of the Cashflow entity. It is defined automatically and reflects actual Cashflow condition. This field is read-only and updates automatically.
10. **Fund**: select the Legal Entity that play the Fund role. This field is informational and is used in Modeling tab only.
11. **Investor**: select the Legal Entity that play the Investor role. This field is informational and is not used in any other tabs except for Modeling.

INFO! When the fields *Code**, *Name**, and *Type** are specified and the Cashflow is saved, the tabs are unblocked and users are able to fully operate the Cashflow. Nevertheless it is recommended to specify the general settings before moving on with the Cashflow explicit specification.

CASHFLOW TYPE AND CORRESPONDING LEGAL ENTITIES

Cashflow Type is selected from the Type dropdown during the initial Cashflow parameters specification. The pool of available Cashflow Types is preinstalled individually for every Hazeltree client during the Hazeltree application deployment routine according to the client's business requirements. All Cashflow Types can be divided into two major groups:

- **General:** different variations of budgeting business affairs (e.g. Invoice, Expense, Tax)
- **Private Equity:** different variations of partnership contracts between two parties (e.g. Investment, Income)

Type*	
Select...	
Capital Call	Private Equity
Capital Dist...	Private Equity
Deal	Private Equity
General	General
Stock Distri...	Private Equity

Insofar, since the Cashflow Type defines the essence of the Cashflow business operation in the first place, it determines the number and type of the Legal Entities which can be assigned to the Cashflow.

NOTE! The Legal Entity fields appear in the Cashflow basic data section strictly after the Cashflow is saved with primary mandatory parameters. Number of fields and pool of available Legal Entities entirely depend on the selected Cashflow Type.

Legal Entity is a Hazeltree unit that represents a business object that relates to the Cashflow as a participant of the business operation. To designate the business nature of the object, Legal Entity is equipped with **Type** parameter. The Types can be divided into two major groups:

- **General:** budgeting business affairs participants (e.g. Bank, Corporate, Custodian)
- **Financial Institution:** partnership contracts parties (e.g. Fund, Investment, Investor)

Depending on the selected Cashflow Type, the Legal Entity field set in the Cashflow basic data section can take two forms:

- **Legal Entity:** implies selection of a single Legal Entity of the General type (e.g. Bank, Broker, Corporate)

Code*	Name*	Type*	Effective Date	Legal Entity
DOC2	DOC 2	General	7/31/2020	AustralianSuper
Currency	Current Amount	Cashflow Business Status	Transfer Business Status	Status
USD	-3,956,002.00	Select...		Entered

- **Fund/Investor:** implies selection of two Legal Entities of the Financial Institution type (e.g. Fund, Investment, Investor)

Code *	Name *	Type *	Settlement Date	Fund
Fund B 200m Q4 2019	Fund B Capital Call 200m Q3 2020	Capital Call	9/30/2020	Fund B - Healthcare Fund
Currency	Current Amount	Cashflow Business Status	Transfer Business Status	Investor
USD	200,000,000.00	Data Gathering		Washington State Investment Board

IMPORTANT! It is impossible to select Cashflow Type and Legal Entity of a different group after the Cashflow is saved with primary mandatory parameters. For example, once Cashflow is set to have a Cashflow Type of the General group, it becomes impossible to select a Cashflow Type of the Private Equity group. The same principle is applied to Legal Entity Cashflow parameter.

NOTE! Both **Cashflow Business Status** and **Transfer Business Status** are customized. The possible statuses and their sequence depend on the business workflow of the company. These parameters are set up by the Hazeltree Implementation Team individually for every client. For example, a client may be in a need of setting several Business Statuses to block further steps of Cashflow lifecycle.

STATUS

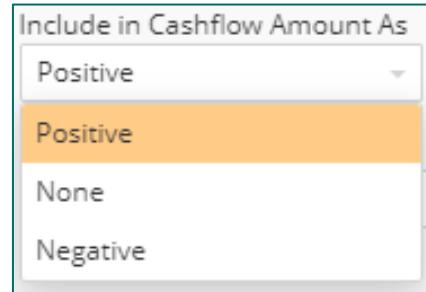
Status of a Cashflow is determined on a basis of all Transfers within the Cashflow. Status changes automatically considering the Transfers' statuses. All possible Cashflow statuses are listed in the table below:

Status	Description
Draft	Default status of the new Cashflow.
Entered	Cashflow has all Transfers in Entered status.
Pending Approval	Cashflow Transfers are waiting for approval.
Released	Cashflow Transfers are in Released status.
Rejected	Cashflow contains Transfers with Rejected status.
Failed	Cashflow contains Transfers with Failed status.
Removed	Cashflow is removed. Cashflow cannot be changed any longer.
In Progress	Cashflow contains a mix of Transfers with different working statuses.

CURRENT AMOUNT

Current Amount of a Cashflow is a total value of all entered Transfers. The value depends on what is set in the dropdown **Include in Cashflow Amount As** of all active Payments. The setting **Include in Cashflow Amount As** has three options:

- **Positive**: the Payment amount is added to the Current Amount.
- **None**: the Payment amount is not included in the Current Amount (for example, if the Payment is internal).
- **Negative**: the Payment amount is subtracted from Current Amount.



EXAMPLE

A Cashflow contains only one Transfer with three Payments:

- Positive with Amount = 100000
- Negative with Amount = 50000
- None with Amount = 1000

The Payment with Negative value is subtracted from the Payment with Positive value, and the one with None is internal and not considered in the Current Amount. Thus, both the Current Amount of the Cashflow and Total Amount of the Transfer will be $100000 - 50000 = 50000$.

The path to the setting **Include in Cashflow Amount As** is shown on the screenshot below (*Transfers tab > Payment > General tab*).

See next page:

Currency: USD | Current Amount: 500,000,000.00 | Cashflow Business Status: Data Gathering | Transfer Business Status: Status: Entered | Investor: Citibank - Credit Facility

Transfers

Add Transfer | Show Removed | Search...

Name	CCY	Amount	Type	Settle...
Drawdowns			Capital Call	12/31/2019
Citibank - Cre...	Credit Facility...	USD 250,000,000...	Income	1/31/2020
★ Citibank - Cre...	Credit Facility...	USD 250,000,000...	Income	12/31/2019
Interest			Interest Pay...	12/31/2019
Paydowns			Capital Distr...	12/31/2019

Payment: Income - USD 250,000,000.00

General | Details | Impacts | Holdings Result | Attachments | Notes | References | Audit

Type: Income | Status: Entered | Currency: USD | Amount: 250,000,000.00 | Security: Select Security

Include in Cashflow Amount ...: Positive | Settlement Date: 12/31/2019

SETTLEMENT DATE

Settlement Date is an estimated day of Cashflow's complete realization (in other words when the deal is completed). If the Settlement Date is specified, this date will be automatically set for all Transfers and Payments created within this Cashflow. Otherwise, all Settlement Dates for Transfers and Payments must be set manually.

CASHFLOW TAB BAR

Cashflow tab bar contains a standard set of Cashflow instruments. They help lead the Cashflow, manage its internal items and specify the details. The Cashflow tab bar is the Cashflow's main control console. The bar contains the following working spaces:



1. **General:** technical parameters and Cashflow general financial data.
2. **Transfers:** container of all Cashflow internal Transfers and Payments.
3. **Modeling:** analysis and automation tool that allows to create Suggested Payments using predefined/customized Algos.
4. **Liquidity:** container of Holdings and Positions that allows to manage investment operations and review the investment details of relationships between Investors and Investment institutes.
5. **Attributes:** container of all custom attributes assigned to the Cashflow.
6. **Attachments:** container of all documents that accompany Cashflow.
7. **Notes:** list of all additional notes related to the selected Cashflow, Transfer, or Payment.
8. **References:** list of all custom external references of the Cashflow.
9. **Audit:** detailed logs of all actions executed during the Cashflow development.

Every instrument displayed on the Cashflow tab bar opens an individual workspace, which is displayed on the Cashflow Editor's Workspace.

NOTE! Cashflow tab bar is initially blocked on the New Cashflow version of the Cashflow Editor screen. It becomes available strictly after the Cashflow is saved with primary mandatory parameters.

GENERAL TAB

General tab contains Cashflow technical parameters and general aspects of the business operation. The General tab does not have any mandatory fields. It contains only reference information that can be used for outputs (reports), but it is a good practice to fill in the details. Provided data helps understand the origins of the Cashflow and basic information.

The General tab is reviewed below:

General *		Transfers	Modeling	Liquidity	Attachments	Notes	References	Audit
Country	Settle Amount	Target Amount	Minimal Amount					
USA - United States (1)	0.00 (2)	3,000,000,000.00 (3)	2,800,000,000.00 (4)					
Security		Effective Date	Report Date	Target Date				
000651.CHUSDCITI (5)	(x) ▾	11/13/2019 (6)	11/13/2019 (7)	5/5/2022 (8)				
Created On	Created By							
11/25/2019, 6:22 PM (9)	mzack							
Last Modified On	Last Modified By							
12/3/2019, 4:55 PM (10)	mzack							
Locked On	Locked By							
(11)								
Description								
Management Fee (12)								

1. **Country:** select a country of the business deal.
2. **Settle Amount***: total cash amount constituted from all posted Cashflow Transfers and Payments (they must be included in Cashflow Amount by a special setting *Include in Cashflow Amount As* in the Payment General tab). This field is read-only and updates automatically. The Settle Amount value includes only Transaction Messages of the following statuses: Processed, Approved, Sent, Acknowledged, Confirmed, Submitted. **NOTE!** The Settle Amount total value does not consider Payments that have a *None* value for the *Include in Cashflow Amount* setting.
3. **Target Amount:** specify the target cash amount of the business deal. It is Cashflow's maximum goal.
4. **Minimal Amount:** specify minimum cash amount of the business deal. It is Cashflow's minimum threshold.
5. **Security:** select a Security from the dropdown of Company's active securities. Use in case the business operation involves Security positions.
6. **Effective Date:** the custom date setting used for internal processes and filtering on screen.
7. **Report Date:** specify the date of Cashflow creation.
8. **Target Date:** specify the date of Cashflow expected completion.
9. **Created On/By*:** the date of the Cashflow creation and the creator's username. This field is read-only.
10. **Last Modified On/By*:** the date of Cashflow last update and the modifier's username. This field is read-only.
11. **Locked On/By*:** the date of Cashflow lock and the modifier's username. This field is read-only.
12. **Description:** provide the Cashflow with a brief description of its business purpose and significant details.

The General tab fields, except for the read-only ones, are always available for modifications during the whole Cashflow's lifespan. In case the live business arrangement undergoes changes, the Cashflow can be momentarily modified to reflect the changes and keep up with actual business progress.

EXAMPLE

The business operation is set by a live agreement between two business partners and displays the target amount of investments at a rate of **\$3.000.000.000** and a minimal amount at a rate of **\$2.800.000.000**. The Cashflow has been created with corresponding parameters on the General tab:

General *		Transfers	Modeling	Liquidity	Attachments	Notes	References	Audit
Country	NOR - Norway	Settle Amount	0.00		Target Amount	3,000,000,000.00	Minimal Amount	2,800,000,000.00

After time, the business agreement conditions undergo changes dictated by new financial factors. They impact the business deal in terms of required target amount and minimal amount. The user, responsible for keeping the Cashflow in actual condition, reflects the changes by modifying the Cashflow parameters:

General *		Transfers	Modeling	Liquidity	Attachments	Notes	References	Audit
Country	NOR - Norway	Settle Amount	0.00		Target Amount	7,000,000,000.00	Minimal Amount	4,500,000,000.00

INFO! The Cashflow modifications are explicitly displayed in the Audit logs on the according tab. Modifier's username and modification's date are automatically updated in **Last Modified On/By** fields. This level of transparency allows to easily track the Cashflow changes and modifiers.

TRANSFERS TAB

Transfers tab is management control console of the Transfers and Payments within a single Cashflow. It allows to specify, maintain, manage and post Transfers and Payments. Existing Transfers and Payments constitute the *Current Amount* and the *Settle Amount* values.

Transfers tab is reviewed below:

General		Transfers	Modeling	Liquidity	Attributes	Attachments	Notes	References	Audit
Add Transfer	<input type="checkbox"/> Show Removed	2	Search...	3					
Name	CCY	Amount	Type	Settle...					
First Tranche 60m	USD	60,000,066.27	Capital Call	8/30/2021	4	5	6	7	8
From Title	To Title	CCY	Amount	Type	Settle...				
★ Washington S...	Fund A - Ener...	USD	5,000,000.00	Investor Con...	8/30/2021				
Washington S...	Fund A - Ener...	USD	5,000,000.00	Partnership ...	8/30/2021				
Washington S...	Fund A - Ener...	USD	50,000,000.00	Capital Call	8/30/2021				
		AZN	66.00	Capital Call	8/30/2021				
Test - Include in Total Amount As	USD	-1,000,000.00	Capital Call	8/30/2021					
Transfer with HOLD Business Statu...	USD	250,000.00	Capital Call	8/30/2021					
Transfer with Long Entities names	USD	15,500.00	Capital Call	8/30/2021					
Transfer without Payments			Capital Call	8/30/2021					
Hazeltree Capital Partners	USD	0.00	Capital Call	7/29/2021					

Payment: Investor Contribution - USD 5,000,000.00

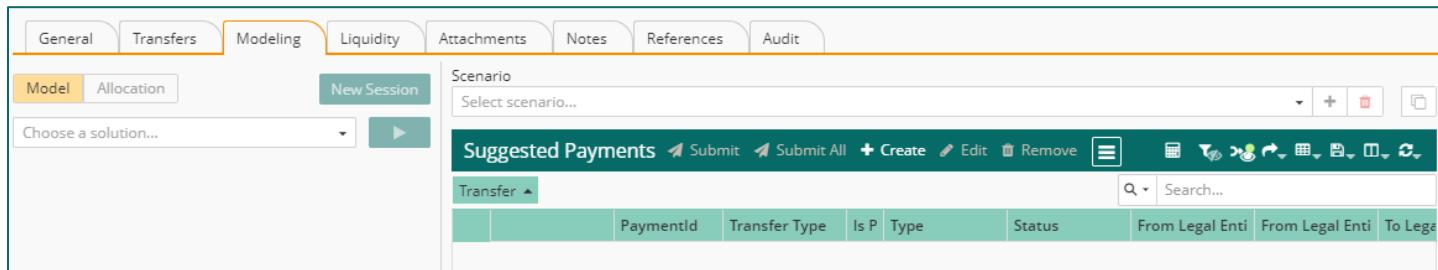
General	Details	Impacts	Holdings Result	Attributes	Attachments	Notes
References	Audit					
Type	Status					
Investor Contribution	Entered					
Currency	Amount	Include in Cashflow ...	Settlement Date			
USD	5,000,000.00	Positive	8/30/2021			
Security						
Select Security						
Transaction Classification		Projection Type				
TM_Classification_01		ProjectionType_01				
Strategy		Account Validation ...				

1. **Add Transfer:** press the button to add a new Transfer.
2. **Show Removed:** mark the checkbox to display the Transfers with *Removed* statuses on the Transfers grid (4).
3. **Search:** use to filter sought-for Transfers or Payments.
4. **Transfers:** grid displays the list of Cashflow's Transfers.
5. **Payments:** expand the Transfer to display the sub-grid that shows all Payments within one Transfer.
6. **Transfer/Payment tab bar:** a set of tabs that include technical and business information of a highlighted Transfer or Payment. **NOTE!** The tabs suite changes according to the selected entity: Transfer and Payment tabs vary.
7. **Operational toolbar:** a set of options that allows to operate with a highlighted entity: Transfer or Payment.
8. **Transfer/Payment workspace:** a working area that displays fields and instruments of the selected tab.

INFO! Transfers is a multicomponent management tool. In order to understand the workflow and learn how to operate it, refer to the dedicated chapter: [Transfers](#).

MODELING

Modeling tab contains a developed engine that allows to create suggested Transfers and Payments in accordance with the algorithms of the Optimizer tool. Modeling engine streamlines the process of calculating the most profitable money movements involving the artificial intelligence of the Optimizer tool.



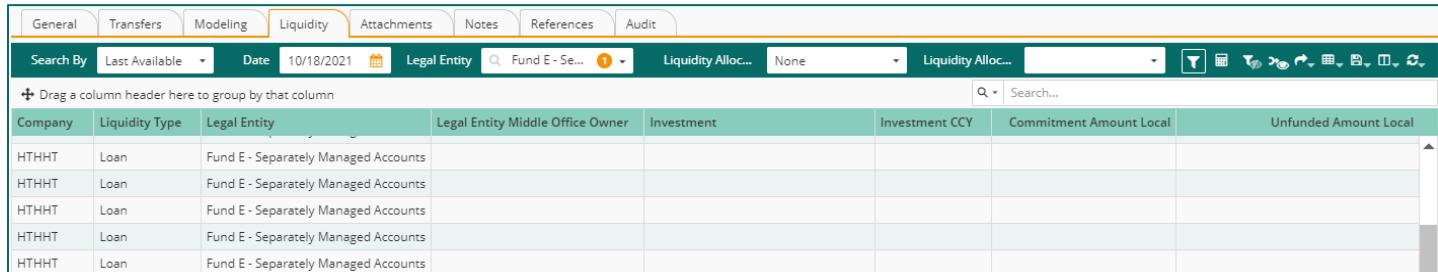
The screenshot shows the 'Modeling' tab selected in the top navigation bar. Below the navigation bar is a toolbar with 'Model' and 'Allocation' buttons, and a 'New Session' button. A dropdown menu labeled 'Choose a solution...' is open. To the right of the dropdown is a play button. The main area is titled 'Suggested Payments' and contains a grid with columns: PaymentId, Transfer Type, Is P, Type, Status, From Legal Enti, From Legal Enti, and To Lega. The grid has a header row and several data rows. At the bottom of the grid is a toolbar with icons for search, sort, and other operations.

Suggested Transfers and Payments are modeled only in this tab and do not affect the live operations workflow, but they can be submitted to the Cashflow Management and continue through Cashflow Lifecycle.

INFO! Modeling is a complex multicomponent instrument. In order to understand the working principles and patterns and to learn how to operate it, refer to the dedicated chapter: [Modeling](#).

LIQUIDITY

Liquidity tab displays Holdings and Positions data (Security and Cash) of the Legal Entities associated with the Cashflow. The Liquidity tab grid is a copy of the [Liquidity Board screen](#) and contains the same data. The screen allows to control the details of investment operations and review the investment details of relationships between Investors and Investment institutes. It also provides with an ability to perform treasury operations via the Cashflows.



The screenshot shows the 'Liquidity' tab selected in the top navigation bar. Below the navigation bar is a toolbar with 'Search By', 'Last Available', 'Date' (set to 10/18/2021), 'Legal Entity' (set to Fund E - Se...), 'Liquidity Alloc...', 'None', and 'Liquidity Alloc...' dropdown. There is also a search bar and a 'Drag a column header here to group by that column' instruction. The main area is a grid with columns: Company, Liquidity Type, Legal Entity, Legal Entity Middle Office Owner, Investment, Investment CCY, Commitment Amount Local, and Unfunded Amount Local. The grid has a header row and several data rows. At the bottom of the grid is a toolbar with icons for search, sort, and other operations.

ATTRIBUTES

Attributes tab contains the **UDFs** assigned to the Cashflow. The user can upload the list of User Defined Fields with custom attributes of different data types which then can be assigned to Transfers or Payments in order to provide more specification on the item.

Term: **UDF (User Defined Field)** is a manually created custom field that is used for different business purposes. It allows users to track information specific to certain subject areas, such as projects, activities, resources, or issues.

The Attributes tab is reviewed below:

The screenshot shows the Attributes tab of a software application. At the top is a toolbar with tabs: General, Transfers, Modeling, Liquidity, Attributes (which is selected and highlighted in orange), Attachments, Notes, References, and Audit. Below the toolbar is a green header bar with buttons for '+ Add' (circled 1), 'Edit', and 'Remove'. To the right of these buttons is a set of standard grid control icons (circled 2). A search bar with a magnifying glass icon and the placeholder 'Search...' is also in this bar. The main area is a data grid with the following columns: Type, Name, Description, Value, and Class. There are two rows of data: one for a Decimal attribute named 'Decimal value' with a sample value of 78.123456 and a Default class; and another for a Date and Time attribute named 'Date value' with a sample value of 12/15/2020. A tooltip 'Drag a column header here to group by that column' is visible above the grid. The bottom right corner of the grid has a circled number 3.

Type	Name	Description	Value	Class
Decimal	Decimal value	Sample decimal cashflow UDF	78.123456	Default
Date and Time	Date value	Sample date cashflow UDF	12/15/2020	

1. **Upper toolbar:** a set of buttons that allow to *create*, *edit*, and *delete* Attributes.
2. **Options panel:** standard grid instruments set.
3. **Search:** standard search tool.
4. **Attributes grid:** contains a list of all Attributes assigned to the Cashflow.

To add a new Attribute to the Cashflow press **Add** button to call the **Set Attribute** pop-up screen:

The screenshot shows the 'Set Attribute' pop-up window. It has a title bar with three icons: a circular arrow, a double-headed arrow, and a close button. The form contains four sections with numbered callouts: 1. 'Name' dropdown containing 'Boolean value' (circled 1). 2. 'Type' dropdown containing 'Boolean' (circled 2). 3. 'Class' dropdown containing 'No Class' (circled 3). 4. 'Value' section with a checked checkbox (circled 4). At the bottom are 'Save' and 'Cancel' buttons.

1. **Name:** select the name of the attribute from the dropdown.
2. **Type:** the type of the attribute is filled in automatically in accordance with its Name.
3. **Class:** the class of the attribute. It is a pre-configured variable and can be used to distinct UDFs into logical groups.
4. **Value:** the class of the attribute is predefined at its creation in the system.

NOTE! It is impossible to have two different values for the same UDF on entity.

INFO! The Attributes scope is wide enough to specify the Transfer or Payment in any possible dimension and value (decimal, text, Boolean, date, percent, etc.). E.g., to stress the percentage of Cashflow a particular Transfer occupies, set an Attribute with type Percent, and specify the percentage value.

ATTACHMENTS

Attachments tab contains a grid that displays all attachments uploaded for the Cashflow. Attachments are usually legal agreements or any other documents of entitlement.

The Attachments tab is reviewed below:

File Name	File Type	Note	Created By	Created On
83307.pdf	pdf	Capital Call from ABC Fund	HTFSSupport	9/3/2021, 9:59 AM
GISEC-HBVC-1-2021-7-21.pdf	pdf	Investment notice	HTFSSupport	9/3/2021, 10:00 AM

1. **Upper toolbar:** a set of buttons that allow to *create*, *edit*, and *delete* attachments.
2. **Options panel:** standard grid instruments set.
3. **Attachments grid:** contains a list of all attachments.
4. **File Type column:** displays formats of uploaded attachments.
5. **Note column:** displays Note that complements the uploaded attachment.

To add a new attachment to selected Cashflow press **Add** button to call the **Add Attachment** pop-up screen:

Document Type	Attachment		
Note	Investment plan		
Attachments *			
<input type="file"/> Drop files or click here to upload!			
FileName	Type	Size	
001.jpg	jpg	0.644 Mb	
11.jpg	jpg	0.724 Mb	
		Save and Close	Close

1. **Document Type:** select the type of the document from the dropdown. See the details in the information block below.
2. **Note:** create a note or supply uploaded attachments with a brief description. This field is optional.
3. **Drop files here:** browse for a file or use drag-and-drop to upload attachments from the desktop.
4. **Uploaded attachments:** the list of already uploaded attachments.
5. **Save:** press to save attachments on the Attachments grid.

DOCUMENT TYPE OF AN ATTACHMENT

Document Type is a tag for Attachments used for filtering. The Document Types as well as their supported formats are customer specific. For example, the following scenario can be used:

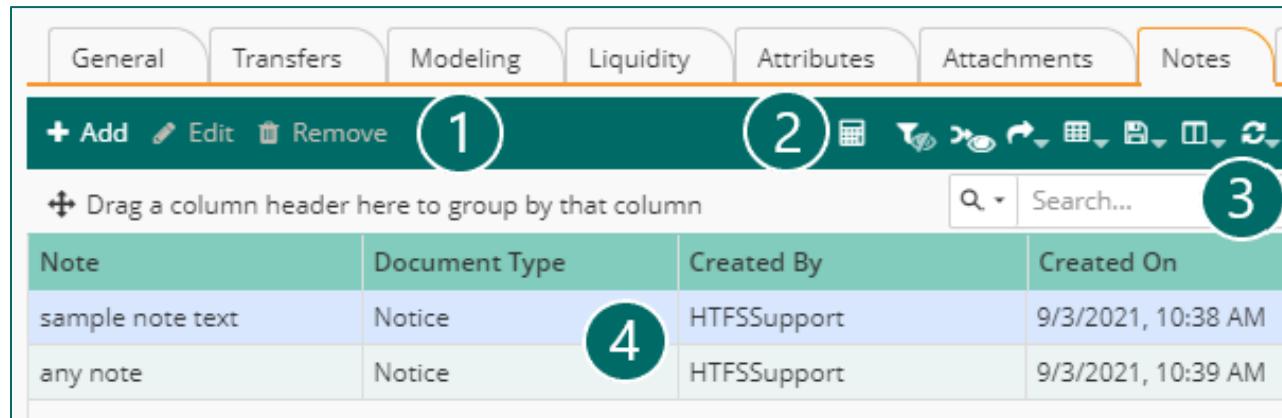
1. **Notice Document Type** can be configured to accept only PDF files – for the Transfer/Payment Attachments that must be submitted to the Voucher/Transaction level documents. This way, all Attachments of Notice type will be merged correctly if the **Concatenate Attachments** checkbox is enabled in *Reference Data → Communication Profiles*. Some documents must also contain an Investor notice based on the Cashflow data. For example, a Fund requests \$1mln from their Investor. As supporting documentation, the Fund attaches the contract file with this Investor, selects the Notice Document Type, and adds a note. When sending an email to the Investor, the system will generate notice using the Cashflow data and attach it to the email along with the contract file.
2. **Attachment Document Type** can be intended for internal use only, between departments, e.g., letters with payment requests from the Finance department, to make the payment based on this internal document. These documents do not have to necessarily be in one format, so multiple extensions are supported.

NOTE! It is important to understand that every Cashflow entity (Cashflow, Transfer, Payment) has its individual References container. Attachments grid of the Transfer does not aggregate the attachments uploaded for enclosed Payments.

Once you added an attachment, it is saved automatically, so you do not have to save the entire Cashflow.

NOTES

Notes tab contains all additional notes related to the selected Cashflow. Several custom types can be set depending on the note contents, and then used for specific report types, or specified for internal use.



The screenshot shows the 'Notes' tab interface. At the top, there is a toolbar with tabs: General, Transfers, Modeling, Liquidity, Attributes, Attachments, and Notes. The Notes tab is active. Below the toolbar is a green header bar with buttons for '+ Add', 'Edit', and 'Remove'. To the right of these buttons are four numbered circles (1, 2, 3, 4) pointing to specific elements: circle 1 points to the 'Add' button; circle 2 points to the search bar; circle 3 points to the search icon; circle 4 points to the notes grid. The grid itself has columns: Note, Document Type, Created By, and Created On. There are two rows of data: one row with 'sample note text' in the Note column, 'Notice' in Document Type, 'HTFSSupport' in Created By, and '9/3/2021, 10:38 AM' in Created On; and another row with 'any note' in the Note column, 'Notice' in Document Type, 'HTFSSupport' in Created By, and '9/3/2021, 10:39 AM' in Created On.

Note	Document Type	Created By	Created On
sample note text	Notice	HTFSSupport	9/3/2021, 10:38 AM
any note	Notice	HTFSSupport	9/3/2021, 10:39 AM

1. **Upper toolbar:** a set of buttons that allow to *create*, *edit*, and *delete* notes.
2. **Options panel:** standard grid instruments set.
3. **Search:** standard search tool.
4. **Notes grid:** contains a list of all notes.

To add a new note to the Cashflow press **Add** button to call the **Add Attachment** pop-up screen (see next page):

- Note Type:** select the type of the note from the dropdown. This field is a customer-specific one.
- Note Text:** create a note by typing any necessary text in this field.

NOTE! It is important to understand that Notes of Cashflows, Transfers, and Payments are kept in different containers. Every Cashflow entity has their individual Notes container.

Notes are different on the Payment and the Transfer levels so that they can be used for Voucher and Transaction.

REFERENCES

References tab contains all References existing for the selected Cashflow, Payment, or Transfer.

Term: Reference is a Cashflow attribute that represents any unique identified assigned by external source applicable to the business operation. Reference does not have strong bindings to any financial subject of the Cashflow and can be utilized at the discretion of the user. In other words, the Reference can stand to any business entity user wants to mention in terms of ongoing business deal.

The References tab is reviewed below:

Source	Code	Description	Created On	Last Modified On
Fund	MJAccounting	It is a special Reference item of the Accounting department within the MJ Fund structure.	9/3/2021, 9:49 AM	9/3/2021, 9:50 AM
Fund	MJAnalytics	It is a special Reference item of the Analytics department within the MJ Fund structure.	9/3/2021, 9:50 AM	9/3/2021, 9:50 AM

- Upper toolbar:** a set of buttons that allow to *create*, *edit*, and *delete* the references.
- Options panel:** standard grid instruments set.
- Search:** standard search tool.
- References grid:** contains a list of all references created for selected Transfer or Payment.

NOTE! Like the Attachments, the Reference grid for the Transfer does not aggregate References created for enclosed Payments. Every Cashflow entity – Cashflow, Transfer, Payment – has its individual References container so that they can be used via API.

To add a new Reference to the Cashflow, press **Add** button to call the External Reference pop-up screen:

The screenshot shows a modal window titled "External Reference". At the top right are three icons: a circular arrow, a checkmark, and a close (X) button. The main area contains four fields: "Source*" with value "Fund" (circled 1), "Code*" with value "MJAccounting" (circled 2), and a "Description" field containing the text "It is a special Reference item of the Accounting department within the MJ Fund structure." (circled 3). At the bottom right are three buttons: "Save" (orange), "Save and Close" (orange), and "Cancel" (green).

1. **Source***: specify Reference external source. This field is mandatory.
2. **Code***: provide Reference with a short code. This field is mandatory.
3. **Description**: complement the Reference with a brief description.
4. **Save/Save and Close**: press to save the Reference.

IMPORTANT! The uniqueness of the Reference is determined by the combination of Reference Source and Code values. It is impossible to create a Reference unit with identical Source and Code combination. However, it is possible to create Reference with identical Source and different Code (or different Source and similar Code).

AUDIT

Audit tab shows all actions applied to the selected Cashflow, Transfer, or Payment, and to other entities related to it. To filter them, use Search or click Show filter and click on filter tool next to the corresponding column header. For Transfers and Payments, the tab becomes available once that Transfer or Payment is selected on Transfer grid.

The Audit tab is reviewed below:

The screenshot shows the Audit tab interface. At the top is a navigation bar with tabs: General, Transfers, Modeling, Liquidity, Attributes, Attachments, Notes, References, and Audit (highlighted in orange). Below the navigation bar are two input fields: "Start Date" (8/20/2021) and "End Date" (9/3/2021), followed by a calendar icon (circled 1). To the right of the date range are several filter and search tools, including a magnifying glass icon (circled 2). Below these controls is a message: "Drag a column header here to group by that column". The main area is a table with the following columns: Entity, Entity ID, Entity Name, Event Code, Action ID, and Action. The table contains several rows of audit data, with one row highlighted (circled 3).

Entity	Entity ID	Entity Name	Event Code	Action ID	Action
Cashflow	4	Fund A Capital Call...	Add Cashflow Attachm...	3405	Attachment added to Cashflow
Cashflow	4	Fund A Capital Call...	Update Cashflow Refer...	3404	Cashflow reference updated
Cashflow	4	Fund A Capital Call...	Create Cashflow Refer...	3403	Reference added to Cashflow
Cashflow	4	Fund A Capital Call...	Create Cashflow Refer...	3403	Reference added to Cashflow
Cashflow	4	Fund A Capital Call...	Create Payment	3399	Cashflow status updated
Transfer	145	Copy of Transfer 1...	Create Payment	3399	Transfer status updated

1. **Start Date/End Date:** specify the timeframe to filter the logs by the date period.
2. **Options panel:** standard grid instruments set.
3. **Audit grid:** the list of all logged actions with details: Entity Name and Type, Event Code, Change ID, Action, Field Name, Current Value, Previous Value, etc.

TRANSFERS

Transfers are projected asset movements inside the Cashflow. The Cashflow Editor offers a management console used to maintain and manage Transfers and Payments. This management console is embedded in the Transfers tab. This section explains how to work with the tool.

Transfers tab is reviewed below:

1. **Add Transfer:** press to create a new Transfer inside the Cashflow.
2. **Grid:** list of all Transfers and Payments. Payments are displayed in the sub-grid when the Transfer is expanded.
3. **Context menu:** operational buttons used to work with Transfers and Payments.
4. **Tab bar:** set of tabs that include technical and business information of a highlighted Transfer or Payment. **NOTE!** The tabs suite changes according to the selected entity: Transfer and Payment tabs vary.
5. **Operational toolbar:** a set of options that allows to operate with a highlighted entity: Transfer or Payment.

WHEN TRANSFER IS ADDED

Add Transfer button opens the Transfer Editor and blocks all tabs on the Transfers tab bar. They become available strictly after the Transfer draft is saved. In parallel, the Details tab is expanded with automatically specified parameters which are read-only and are updated automatically as the Transfer progresses:

- **Status**
- **Created On/By**
- **Last Modified On/By**
- **Locked On/By**

At the same time, the operational toolbar unblocks new buttons that allow to operate and manage created Transfer. To edit the Transfer parameters specified on the draft stage, utilize the operational button **Edit**.

INFO! Operational instruments available on the Transfers console are explicitly reviewed in the sections below.

OPERATIONAL TOOLBAR

Transfers operational toolbar contains various instruments that allow to operate with Transfers and Payments. The set of instruments presented on the operational toolbar is versatile and depends on multiple factors: nature of the entity taken on edit, filling degree, status, etc.

The entire collection of instruments is listed in the table:



Image	Name	Purpose	Applicable To
	Save and close	Specify mandatory parameters, save entity, and quit further editing.	New Transfers and new Payments. In case of Payments button specifies Payment status.
	Save and add next	Specify mandatory parameters, save entity, and immediately create another one.	New Transfers and new Payments. In case of Payments button specifies Payment status.
	Save as Draft and continue editing	Specify mandatory parameters, save with Draft status, and proceed with editing.	New Payments and existing Payments. In case of existing Payments button offers to save entity as Draft and quit further editing.
	Cancel	Disregards all modifications applied to entities. Rolls back to saved parameters.	Transfers and Payments taken on edit.
	Lock	Make entity read-only for other users.	Transfers.
	Add Payment	Add Payment within the Transfer. Opens New Payment workspace.	Transfers.
	Edit	Take highlighted entity on edit and unlock greyed out parameters available for editing.	Transfers and Payments.
	Copy	Make a duplicate of highlighted entity.	Transfers and Payments.
	Remove	Mark highlighted entity as removed and conceal from active entities list unless Show Removed checkbox is checked.	Transfers and Payments.
	Complete Transfer	Mark Transfer as completed and ready for posting.	Transfers with the number of Payments equal or exceeding Expected Payments parameter.

	Validate for Posting	Check if Transfer and internal Payments meet Posting requirements and can be converted into Voucher and Transaction Messages.	Transfers with the number of Payments equal or exceeding Expected Payments parameter.
	Post	Post Transfer as Transaction: convert Transfer into Voucher (enclosed Payments become Transaction Messages).	Completed Transfers.
	Set as Primary	Assign Primary tag to highlighted Payment.	Payments with no Primary tag.

IMPORTANT! Edit button is not always available for the use against Transfers. Posted Transfers cannot be modified because they have already been converted into Vouchers. The only remaining option for posted Transfer is **Copy**.

TRANSFERS GRID

Transfers grid contains the list of all Transfers and Payments with their Settlement Dates and Statuses. The Transfers grid allows to switch among items. It also can display removed items and allows to call the context menu with operational buttons.

Transfers grid is reviewed below:

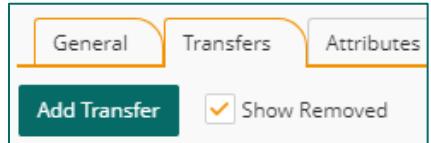
Add Transfer		<input checked="" type="checkbox"/> Show Removed	Search...				
Name	CCY	Amount	Type	Settle...			
First Tranche 60m	USD	60,000,066.27	Capital Call	8/30/2021			
From Title	To Title	CCY	Amount	Type	Settle...		
★ Washington S...	Fund A - Ener...	USD	\$,000,000.00	Investor Con...	8/30/2021		
Washington S...	Fund A - Ener...	USD	5,000,000.00	Partnership ...	8/30/2021		
Washington S...	Fund A - Ener...	USD	50,000,000.00	Capital Call	8/30/2021		
		AZN	66.00	Capital Call	8/30/2021		
Test - Include in Total Amount As	USD	-1,000,000.00	Capital Call	8/30/2021			

- Transfer:** list of the Transfers created in the Cashflow. Expand the Transfer to see enclosed Payments.
- Payments:** list of the expanded Transfer's Payments with From, To, Currency, Amount parameters.
- Type:** type of the Transfer/Payment.
- Settlement Date:** expected Settlement Date of the Transfers and enclosed Payments.
- Status & Info:** actual status of the Transfers and enclosed Payments and information plate.

NOTE! Highlighting any of the items displayed on the Transfers grid activates associated options on the Transfers tab bar and operational toolbar instruments.

SHOW REMOVED

Show Removed checkbox displays the Transfers and Payments with Removed statuses. Removed Transfers and Payments are concealed from the Transfer grid by default. To review the removed entities, check the **Show Removed** checkbox; removed items will be displayed on the Transfer grid among active items.



IMPORTANT! Removed Payments are not considered in calculation of the Cashflow Current Amount and the Settle Amount regardless of the value of the parameter **Include in Cashflow Amount As**. They also are not included in Vouchers as Transaction Messages when the Transfer is posted. In addition, removed Payments are ignored when the Transfer is checked against the **Expected Payments** value.

CONTEXT MENU

Operational buttons are available not merely from the pinned operational toolbar but also can be accessed from the context menu. Additionally, the context menu comprises extra buttons that allow provide more actions available for the Transfer entities.

To open the context menu with applicable buttons, right click on the entity on the Transfers grid:

- **Edit:** modify selected entity. This button is available for Transfers and Payments.
- **Change Business Status:** change the business status of the object (*Data Gathering, On hold, Reviewing By Username, Reviewing by Legal Entity, Submitted, Validation Stage*). This button is available for Transfers only.
- **Copy:** create a copy of a selected entity. This button is available for Transfers and Payments.
- **Add Transfer:** press to create a new Transfer.
- **Add Payment:** press to create a new Payment.
- **Complete Transfer:** press to change the status of the Transfer from Draft to Completed.
- **Complete All Transfers:** press to change the status of all Transfers in the Cashflow from Draft to Completed.
- **Validate for Posting:** press to check the integrity of the object for a Posting action. This button is available for Transfers and Payments.
- **Post:** press to post the Transfer and transform it into live Voucher. This button is available for Transfers only.
- **Post All:** press to post all Transfers of the Cashflow and transform them into live Vouchers. This button is available for Transfers only.
- **Lock:** press to lock the Transfer and restrict it from taking any changes. This button is available for Transfers only.
- **Remove:** delete the entity. This button is available for Transfers and Payments.

- **Move to Draft:** press to change the status of the Payment to Draft. This button is available for Payments only.
- **Move:** press to transport the Payment to another Transfer within the Cashflow. This button is available for Payments only.
- **Set as Primary:** flag the Payment as Primary for the Transfer. This button is available for Payments only.

PRIMARY PAYMENT

The first Payment created under the Transfer is automatically flagged as a **Primary Payment**. **IMPORTANT!** It is critical to control which Payment has the Primary mark because it directly impacts the Output Messages generated for the Transfer.

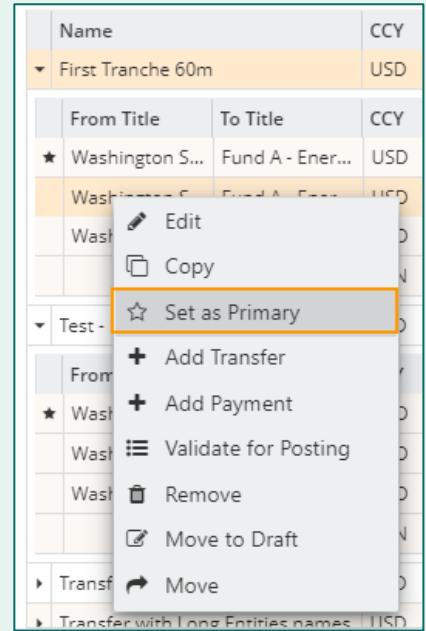
PRIMARY PAYMENT & OUTPUT MESSAGE LOGIC

The **Primary Payment's** major task is to set a Payment which data will be used for all filtering and selection of generated message types workflows and templates. It also determines what Output Message template will be used for the Transfer (only if such template is not set on Company or System level).

The Payment contains From and To Legal Entities which have configured **Communication Profiles** attached to them. The Communication Profiles have an assigned **Output Message** template. When the Payment is marked as Primary, it tells the system what Output Message template to use for the Transfer.

The first Payment to be created under the Transfer becomes primary by default. It is possible to assign the Primary mark to a different Payment under the same Transfer. Call the context menu on the Transfers grid and press Set as Primary button.

NOTE! Make sure that the Primary Payment has From/To Legal Entities specified and that the Legal Entities has a Communication Profile assigned. Otherwise the Output Message will not be generated.



TRANSFER TABS

Transfers tab bar contains options with different management instruments that allow to create, modify, and maintain Cashflow entities: *Transfers* and *Payments*. Set of options displayed on the tab bar depends on which entity is selected on the Transfers grid:

A screenshot of a software page titled 'Transfer: First Tranche 60m'. Below the title is a horizontal tab bar with several options: 'Details' (highlighted in orange), 'Payments', 'Attributes', 'Attachments', 'Notes', 'References', 'Outputs Preview', and 'Audit'. The 'Payments' tab is currently active.

Available tabs for highlighted Transfers and Payments are shown in the table:

Tab	Highlighted Transfer	Highlighted Payment
Transfer Details	✓	
Payment Details		✓
Payments	✓	
Attributes	✓	✓

Attachments	✓	✓
References	✓	✓
Outputs Preview	✓	
General		✓
Impacts		✓
Holdings Result		✓
Audit	✓	✓
Notes	✓	✓

TRANSFER DETAILS

Transfer Details tab becomes available when a Transfer is selected on the Transfer grid. It basic financial and technical data of the Transfer. The Transfer Details tab opens in two modes:

- **Initial specification:** when a new Transfer is created, it is compulsory to specify the Details fields.
- **Read-only:** if the Transfer already exists, all fields will be greyed out with no availability to change them.

INFO! The Transfer Details must be specified during initial specification before the user can save the Transfer and proceed with further work.

The Transfer Details tab is reviewed below:

Details		Payments		Attachments		Notes		References		Outputs Preview		Audit	
Status	Name	Type											
Entered 1	Fee - Dec 2020 2	Capital Call 3											
Business Status	Currency	Total Amount	Expected Payments										
Validation Stage 4	USD 5	7,524,000.00 6	2 7	<input checked="" type="checkbox"/> Allocate 8									
Target Date 9	Settlement Date 10	Voucher 11											
Created On 12	Created By mzack												
Last Modified On 13	Last Modified By HTFSSupport												
Locked On 14	Locked By 												

1. **Status***: actual status of the Transfer which is determined on a basis of Payments' statuses. This field is read-only.
2. **Name***: specify the Transfer brief name which reflects its basic business purpose. This field is mandatory.
3. **Type***: specify the Transfer Type from the pool of available Types. This field is mandatory.
4. **Business Status**: the status of the Transfer in terms of its business cycle.
5. **Currency**: currency of the Transfer's Payments. This value is a read-only. It is taken from the Payments.
6. **Total Amount**: total sum of all amounts of the Transfer's Payments considering the Payments' setting **Include in Cashflow Amount As**. This value is a read-only. It is taken from the Payments.

7. **Expected Payments:** is an optional parameters that identifies the number of Payments this Transfer will contain. **IMPORTANT!** The Transfer cannot be posted if the actual number of its Payments is different than **Expected Payments** value. Also, it is not possible to create more Payments than specified.
8. **Allocate:** is an optional flag with no hardcoded logic behind it. It can be used in Algo logic (for example, to split/allocate marked Transfers to several entities or fill with more detailed Payments).
9. **Target Date:** set the date of Transfer estimated complete filling.
10. **Settlement Date:** set the date of Transfer estimated settlement.
11. **Voucher:** the ID number of the Voucher produced from the Transfer. This field is a read-only. It is assigned and filled in automatically once the Transfer is posted.
12. **Created On/By***: date of the Transfer creation and the creator's username. This field is read-only.
13. **Last Modified On/By***: date of the Transfer last update and the modifier's username. This field is read-only.
14. **Locked On/By***: date of the Transfer lock and the modifier's username. This field is read-only.

NOTE! The **Expected Payments** value determines the number of Payments that are expected to constitute the Transfer. It is important to correctly estimate the number of Payments because the designated limit cannot be exceeded.

DETAILS TAB FOR POSTED TRANSFERS

The posted Transfers remain on the Transfer grid and still can be reviewed. However, they cannot be edited because they have already been transformed into the Vouchers. The **Transfer Details tab** for posted Transfers is supplemented with an additional field **Voucher** that displays the according Voucher ID.

The Voucher ID can be used to find the posted Transfer on the Transactions screen or Capital Activities screen.

Transfer Details					
Status	Name	Type			
Entered	Fee - Dec 2020	Capital Call			
Business Status	Currency	Total Amount	Expected Payments		
Validation Stage	USD	7,524,000.00	2	<input checked="" type="checkbox"/> Allocate	
Target Date	Settlement Date	Voucher			
12/31/2020	12/31/2020	20331			

PAYMENT DETAILS

Payment Details tab becomes available only when a Payment of Private Equity type is selected on the Transfer grid. Payments tab contains a set of related generic parameters which can be specified in accordance with the business requirement of the treasury move.

The Payment Details tab is reviewed below:

Payment Details					
Fund Currency	Amount (Fund CCY)	FX Rate	Current Call Percent		
EUR	280,000.00	1.6			
Quantity	Price	Cost	Gain		
50	508.9				
Share Class	Fund Size	Client Vintage			
Glass B Savings					

1. **Details:** press Details tab to open the Payment Details workspace.
2. **Payment related parameters:** generic Payment parameters that can be willingly specified for the selected Payment.
3. **Share Class:** select a Share Class value of specified Legal Entities from the dropdown.

IMPORTANT! It is critical to note that the Payment Details tab appears on the Transfer tab bar only when the Payment has a **Private Equity** type. These can be: *Capital Call, Dividend Income, Interest Income, Management Fee, Partnership Expenses, Return of Capital, Withholding Tax*, etc.

SHARE CLASS SETTING

Share Class dropdown contains configured Share Class values of the Legal Entities that are specified in **From** and **To** sides on the **General tab** of the Payment. If the Legal Entities are not specified on the General tab, the Share Class dropdown will show no values.

Term: **Share Class** is a special unit designed as a connecting link between Fund and Investor. The Share Class represents any common business entity or intermedium which is required for both parties partnership in frames of a particular Legal Entity.

Share Class	Fund Size
Psagot Provident	Blass B Savings
Korea Post Savings	Class A Savings

PAYMENTS

Payments tab becomes available only when a Transfer is selected on the Transfer grid. The Payments tab shows all Payments that exist under the selected Transfer.

The Payments tab is reviewed below:

The screenshot shows the Payments tab interface. At the top, there is a navigation bar with tabs: Details (highlighted), Payments, Attachments, Notes, References, Outputs Preview, and Audit. Below the navigation bar is a toolbar with various icons. The main area is a grid table with columns: Type, Status, From Code, From, To Code, To, From Portfolio I, and From Portfolio II. There are four numbered callouts pointing to specific elements: 1 points to the 'Details' tab; 2 points to the toolbar; 3 points to the search bar; and 4 points to the grid table.

Type	Status	From Code	From	To Code	To	From Portfolio I	From Portfolio II
Investor Contr...	Entered	NY State Retir...	New York Stat...	Fund B	Fund B - Healt...	New York State	New York Stat...
Capital Call	Entered	NY State Retir...	New York Stat...	Fund B	Fund B - Healt...	New York State	New York Stat...
Capital Call	Entered	Washington S...	Washington S...	Fund B	Fund B - Healt...		

1. **Details:** a shortcut button that leads to the General tab of the selected Payment.
2. **Options panel:** standard grid instruments set.
3. **Search:** standard search tool.
4. **Payments grid:** contains a list of all Payments with their parameters within the selected Transfer.

NOTE! The Payments in Removed statuses are not displayed on the Payments tab grid by default. To see removed Payments, check the **Show Removed** checkbox on the Transfer grid area (the setting is automatically applied to Payments as well).

For detailed overview and description of Payment in the system, refer to the [Payments](#) section.

PAYMENT TYPE

Payment Type determines not merely the business nature of the treasury flow, but also has a direct impact on which of the [Communication Profiles](#) will be used for the Output Message generation. It is important to check the types of Payments in order to get the desired outcome.

INFO! The Output Message is generated from a Template created in the Reference Data module and specified in the Communication Profile.

ATTRIBUTES, ATTACHMENTS, NOTES, REFERENCES & AUDIT

Attributes, Attachments, Notes and **References** tabs are identical to the Cashflow tabs which are located of the Cashflow tab bar and carry out the same tasks.

ATTRIBUTES

Attributes tab is identical to the [Cashflow Attributes tab](#) and allows users to upload a list of **UDF (User Defined Fields)** with custom attributes of different data types. Attributes can be assigned to the Transfer or Payment in order to provide more specification on the item.

ATTACHMENTS

Attachments tab is identical to the [Cashflow Attachments tab](#) and contains all attachments uploaded for Transfer or Payment; Attachments tab becomes available for both Transfer and Payment selected on the Transfer grid.

NOTE! Every Cashflow entity (*Cashflow, Transfer, Payment*) has its own individual Attachments container. Attachments grid of the Transfer does not aggregate the attachments uploaded for its internal Payments.

NOTES

Notes tab is identical to the [Cashflow Notes tab](#) and contains additional notes related to the Payment. Several custom types can be set depending on the note contents, and then used for specific report types, or specified for internal use.

NOTE! The Notes of Transfers and Payments are kept in separate containers. This way, Notes of Payment and Transfer levels can be further used in frames of Vouchers and Transactions separately.

REFERENCES

References tab is identical to the [Cashflow References tab](#) and contains all References existing for the selected Cashflow, Payment, or Transfer.

NOTE! Every Cashflow entity (*Cashflow, Transfer, Payment*) has its individual References container. Therefore, they can be used through the Public API.

AUDIT

Audit tab is identical to the [Cashflow Audit tab](#) and contains logs of all actions applied to the selected Payment. To filter these actions, use Search or click Show filter and click on filter tool next to the corresponding column header.

OUTPUTS PREVIEW

Outputs Preview tab becomes available only when a Transfer is selected on the Transfer grid. The Outputs Preview tab contains all Output Messages that were automatically generated for selected Transfer and enclosed Payments. Users are free to preview, download and manually substitute the Output Messages.

Term: **Output Message** is a major financial document that is attached to the Transfer. The document contains a detailed report and includes every specified aspect of the Transfer. The Output Message is normally generated on a basis of worldwide business standards; however, it is possible to customize the Output Messages and create custom individual templates.

The Outputs Preview tab is reviewed below:

The screenshot shows the 'Outputs Preview' tab selected in the top navigation bar. Below the toolbar, there are two buttons: 'Upload' (2) and 'Remove Output' (3). A search bar is also present. The main area displays a grid of output messages with columns: Template, Template Code, Target Counterparty, Voucher Type, TM Flow, Output Level, Output, Email, and Manual. The first row shows 'CapitalCall' in all columns except 'Template'. A large number '4' is overlaid on the 'From' column. A number '5' is overlaid on the far right edge of the grid area.

1. **Outputs Preview:** press Outputs Preview tab to open the Outputs Preview workspace.
2. **Upload:** select an Output Message and press the button to upload a manual Output Message instead of the default.
3. **Remove Output:** select an Output Message and press the button to delete it. The button is only available when the grid contains more than one Output Message.
4. **Outputs Preview grid:** contains a list of all Output Messages generated for selected Transfer.
5. **Options panel:** standard grid instruments set.

The Outputs Preview grid contains a set of columns: *Output, Email, Manual*:

TM Flow	Output Level	Output	Email	Manual
Wire	Voucher	Preview	Preview Email	<input type="checkbox"/>

1. **Output column:** shows a Preview link for downloading a composed Output Message for review before it is sent outside.
2. **Email column:** shows a Preview Email link that allows to review a composed Email before it is sent outside.
3. **Manual:** a checkbox that indicates whether the Output Message has been uploaded manually (checked) or created automatically (unchecked).

The Output Messages for Transfers are created automatically on a basis of *Reference Data* configuration.

IMPORTANT! It is strongly recommended to configure the Output Messages before using Cashflows; otherwise, a very important part of the Cashflow workflow will be unavailable.

OUTPUT MESSAGES MANAGEMENT

The Message Layouts templates used in automatic dynamic generation of the Transfers' Output Messages are designed in the Reference Data module. To start creating the Output Messages templates proceed to the **Reference Data** module > **Message Layouts** folder > **Message Layouts** screen:

The Output Messages are generated from the Message Layout templates listed on the Message Layout screen grid. The Output Messages are automatically generated on the basis of several parameters and dynamically follow up the Transfer changes. These basic parameters are:

- Company
 - Message Type
 - Output Level
 - Legal Entity Type
 - Legal Entity Code

When the system recognizes the Transfer that fits in the parameters of a particular Message Layout templates, it automatically generates an Output Message and includes all specified Transfer details. The system can create multiple Output Messages if it recognizes the Transfer to fit in parameters of several Message Layout templates, it creates an according number of the Output Messages.

NOTE! The automatically generated Output Message can be previewed. In case the automatic filling of the Output Message seems unsatisfactory or insufficient, the user can edit the downloaded Output Message and upload a manual Output Message.

To substitute a selected Output Message with a manual Output Message, press the **Upload** button to call **Add Manual Output** pop-up screen:

Add Manual Output

Note	Substitution of the originally generated Output Message.	1
<div style="border: 1px dashed #ccc; height: 100px; margin-bottom: 10px;"></div> Drop files or click here to upload!		2
FileName	Type	Size
rule.pdf	application/pdf	0.252 M
		4
<input type="button" value="Save"/>		<input type="button" value="Cancel"/>

1. **Note:** compliment the uploaded Output Message with a brief description.
2. **Drop file here:** browse for a file or use drag-and-drop to upload Output Message from the desktop.
3. **Uploaded Output Message:** the name of the uploaded manual Output Message.
4. **Save:** press to save the manual Output Message.

IMPORTANT! Though the *Add Manual Output* pop-up screen looks similar to the *Add Attachment* pop-up screen, it is not possible to upload more than one manual Output Message. It is also required to respect the file extension in accordance with the original's extension. The user will not be able to upload a manual HTML Output Message instead of an original PDF Output Message.

GENERAL

General tab becomes available only when a Payment is selected on the Transfer grid. The General tab contains basic financial information and technical parameters of the selected Payment.

The General tab interface is reviewed below:

The screenshot shows the 'General' tab workspace with the following field mappings:

- 1**: General tab header.
- 2**: Type: Return of Capital.
- 3**: Status: Entered.
- 4**: Currency: USD.
- 5**: Amount: 280,000.00.
- 6**: Include in Cashflow Amor.: Positive.
- 7**: Settlement Date: 7/27/2020.
- 8**: Transaction Classification: Fee.
- 9**: Projection Type: Investor Fee.
- 10**: Strategy: DEFAULT.
- 11**: Account Validation Data.
- 12**: Security: Select Security.
- 13**: From: Legal Entity: Korea Post Savings.
- 14**: To: Legal Entity: Psagot Provident.
- 15**: Modified by: Created On: 7/23/2020; Created By: ITFSsupport.
- 16**: Modified by: Last Modified On: 7/23/2020; Last Modified By: ITFSsupport.

1. **General:** press General tab to open the General workspace.
2. **Type*:** select the Payment Type from the pool of available Types. This field is mandatory.

3. **Status***: current status of the Payment. This field is read-only and updates automatically.
4. **Currency***: select the Payment Currency from the dropdown. This field is mandatory.
5. **Amount***: specify the Payment cash Amount. This field is mandatory.
6. **Include in Cashflow Amount As**: select positive/none/negative impact on the total Cashflow amount.
7. **Settlement Date**: specify the estimated Settlement Date of the Payment.
8. **Transaction Classification**: select the Payment Transaction Classification from the dropdown.
9. **Projection Type**: select the Payment Projection Type from the dropdown.
10. **Strategy**: select the strategy according to the Projection Type from the dropdown.
11. **Account Validation Data**: specify the Payment's Account Validation Data.
12. **Security**: attach a Security from the Security Master container that secures the Payment.
13. **From**: specify Legal Entity, Portfolio, Account or Payee parameters of the Sender side.
14. **To**: specify Legal Entity, Portfolio, Account or Payee parameters of the Receiver side.
15. **Created On/By***: the date of Payment creation and the creator's username. This field is read-only.
16. **Last Modified On/By***: the date of Payment last update and the modifier's username. This field is read-only.

PAYMENT'S MANDATORY & OPTIONAL PARAMETERS

The Payment has only four mandatory parameters that must be specified:

- **Type**: business purpose of the treasury flow.
- **Currency**: the currency of the moving cash.
- **Amount**: the amount of money transferred by this payment.
- **Include in Cashflow Amount As**: positive, neutral, or negative impact on total Amount of the Cashflow. The default value is *Positive*.

It is not possible to create a new Payment without these fields specified. The other parameters are optional and can be ignored (including From and To Legal Entities).

IMPORTANT! Even if the From and To Legal Entities' parameters are optional and can be left unspecified, its neglection leads to a break in the Cashflow workflow. The Output Message for the Transfer is generated on the basis of the Primary Payment and its Type. The Output Message will be formed basing on the Legal Entity's [Communication Profile](#). In case the Legal Entities re not specified in the Primary Payment the Output Message will not be generated.

This, however, means that the none-primary Payments can be left with no From and To Legal Entities' parameters specification if the business aspect allow to do so.

In terms of the **From** and **To** fields specification, the General tab interface provides with three available options:

- **Legal Entity**
- **Portfolio**
- **Account/Payee**



From	To
Legal Entity <input type="text" value="Korea Post Savings"/> X ↶ ↷	Legal Entity <input type="text" value="Psagot Provident"/> X ↶ ↷
Portfolio <input type="text" value="1152"/> X ↶	Portfolio <input type="text" value="1113685"/> X ↶
Account / Payee <input type="text" value="Select an Account / Payee..."/> ↶ ↷	Account / Payee <input type="text" value="Select an Account / Payee..."/> ↶ ↷

INFO! The principle of **From/To** field specification relies on the hierarchical structure of the Reference Data. The user can select from all existing Accounts and Payees if the Portfolio is not specified. If the Portfolio is specified, the user can select only those Accounts and Payees which belong with this Portfolio. Finally, if the Legal Entity is specified, the user can select only those Portfolios which are associated with this Legal Entity.

FROM/TO PAYEES

From/To Payees that are available for selection are derived from the list of Payees which are assigned to the Legal Entities as [System Entities](#). The Payees are mapped to Accounts through the Reference Data module. Proceed to the *Reference Data module > Portfolio/Custodian folder > Accounts screen*.

Take the Account of your interest on edit to assign the available Payees to it. See the screenshot below:

The screenshot shows the 'Edit Account' interface. At the top, there are dropdowns for Company (HTCP), Portfolio Code (ZZZ HTCP), Custodian Code (Account General), Account Code (TPRP), and Account Type (Default Account Type). A checked checkbox indicates the account is Active. Below these are tabs: Details, Instructions, Attributes, Payee Links (which is highlighted in yellow), Tradable Securities, Attachments, Account Mappings, and Audit. Under the Payee Links tab, there's a note: 'No mapping'. Two lists are shown: 'Available Payees' on the left and 'Selected Payees' on the right. Both lists have columns: Name, Code, and Is Active. Orange arrows point from the Available Payees list to the Selected Payees list, and from the Selected Payees list back to the Available Payees list, indicating a bidirectional relationship.

IMPACTS

Impacts tab becomes available only when a Payment of *Private Equity* type is selected on Transfer grid. The Impacts tab contains a set of Investor and Fund related Currency parameters which can be specified in accordance with the business requirement of the treasury move. It describes changes that the implementation of this payment will make in the Holding.

The Impacts tab is reviewed below:

The screenshot shows the 'Impacts' workspace. At the top, there are tabs: General, Details, Impacts (which is highlighted in orange), Holdings Result, Attributes, Attachments, References, and Audit. Numbered circles indicate specific areas: 1 points to the 'Impacts' tab; 2 points to the 'Local Currency: USD' section; 3 points to the 'Fund Currency: EUR' section; and 4 points to the financial parameter sections below. The financial sections include: Unfunded Amount (10,000.00), Recallable Distribution Amount (4,000.00), Total Contribution Amount (150,000.00), Total Distribution Amount (30,000.00), MV (280,000.00), Commitment Reducing Amount (90,000.00), Cost (508.90), and Alternate Cost (506.90).

1. **Impacts:** press Impacts tab to open the Impacts workspace.
2. **Local Currency:** the Investor related section with parameters for Investor Currency specification.
3. **Fund Currency:** the Fund related section with parameters for Fund Currency specification.

4. **Currency related parameters:** generic Currency parameters that can be willingly specified for the Payment.

PRIVATE EQUITY TYPE

It is critical to note that the Impact tab appears on the Transfer tab bar only when the Payment has a **Private Equity** type. These can be: Capital Call, Dividend Income, Interest Income, Management Fee, Partnership Expenses, Return of Capital, Withholding Tax, etc.

INFO! The Impacts tab contains Currency generic parameters that are basically used for client's personal reference. These parameters provide transparency and detailed specification of Payment entity.

HOLDINGS RESULT

Holding Result tab becomes available only when a Payment of *Private Equity* type is selected on Transfer grid. The Holding Result tab contains a set of Holding related parameters. The Holdings parameters include the Fund/Investor values and can be specified in accordance with the business requirement of the treasury move. Holdings result tab shows the holding considering all changes described in impacts.

Holding Result tab interface is similar to the Holdings tab on the Legal Entities screen, but it shows how the holding will look like after the payment is completed.

NOTE! Holdings Result values are not calculated automatically. Users could fill them manually to store incremental updates due to payments.

The Holdings Result tab is reviewed below:

The screenshot shows the Holdings Result workspace with the following elements and numbered callouts:

- Top Tabs:** General, Details, Impacts *, Holdings Result (highlighted with a blue circle and number 1), Attributes, Attachments, References, Audit.
- General Section (Callout 2):** Contains fields for Total Contribution Percent (98.3), Ownership Percent (90), and Ownership Percent Vehicle (empty).
- Investor Section (Callout 3):** Contains fields for Last Reported IRR (78,000) and Last Reported MV Date (8/4/2020).
- Local Currency Section (Callout 4):** Contains a dropdown menu set to Local Currency: USD.
- Fund Currency Section (Callout 5):** Contains a dropdown menu set to Fund Currency: EUR.

- Holdings Result:** press Holdings Result tab to open the Holdings Result workspace.
- General:** the Holdings related section with basic Holdings parameters.
- Holdings related parameters:** generic Holdings parameters that can be willingly specified for the Payment.
- Local Currency:** the Investor related section with parameters for Investor Currency specification.
- Fund Currency:** the Fund related section with parameters for Fund Currency specification.

PRIVATE EQUITY TYPE

It is critical to note that the Holding Result tab appears on the Transfer tab bar only when the Payment has a **Private Equity** type. These can be: Capital Call, Dividend Income, Interest Income, Management Fee, Partnership Expenses, Return of Capital, Withholding Tax, etc.

LOCAL CURRENCY & FUND CURRENCY SECTIONS

Holding Results of the Payment possess a collection of parameters that allow users to keep figures in both local and Fund Currency. These parameters repeat the Legal Entity Holdings parameters:

Unfunded Amount	Recallable Distribution Amount
Total Contribution Amount	Total Distribution Amount
Commitment Amount	Commitment Reducing Amount
Total Income	
Cost	Alternate Cost
MV	NAV
DPI	TVPI
Total Capital Call Amount	Total Realized Gain
Total Return Of Capital	Total Temp. Return Of Capital
Total Management Fees Inside	Total Management Fees Outside
Total Partnership Expenses Inside	Total Partnership Expenses Outside
Other Liabilities	Guarantees

NOTE! If the Fund has no associated Currency, the section Fund Currency is unavailable.

MODELING

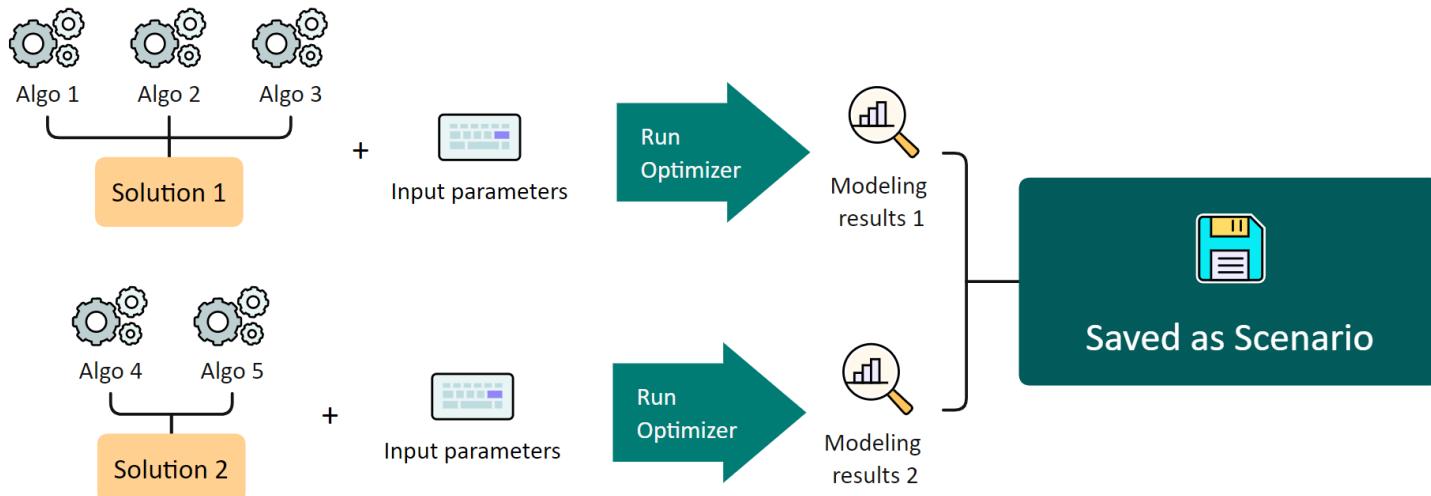
Modeling is multicomponent instrument built into the Cashflow Editor.

Modeling engine works with the Optimizer tool involving programmed algorithms for streamlining the calculation of most profitable actions. It gives users the opportunity to create ‘what if’ scenarios in order to analyze how the suggested actions affect overall liquidity of fund structures. Modeling is embedded in the self-titled tab.

INFO! The modeled data are not real Cashflows items. It does not affect the Cashflow workflow of managing Transfers and Payments and can be easily managed. However, these actions can be submitted to the Cashflow Management and become real items through Cashflow lifecycle. Modeling engine can also be used for automating standard actions (e.g. regular dividends payments).

MODELING WORKING PRINCIPLE

Modeling engine uses Optimizer Solutions to generate Suggested Payments which help analyze fund structures liquidity as well as automate standard Cashflow procedures. The principle of Modeling engine work is presented on the schema below:



Term: **Solution** is a Package of Algos executed in sequence in order to produce Modeled Results.

Term: **Algo** is a Solution component developed in Hazeltree Optimizer Framework.

Term: **Model** is a predefined Solution selected from the system + input parameters entered by user.

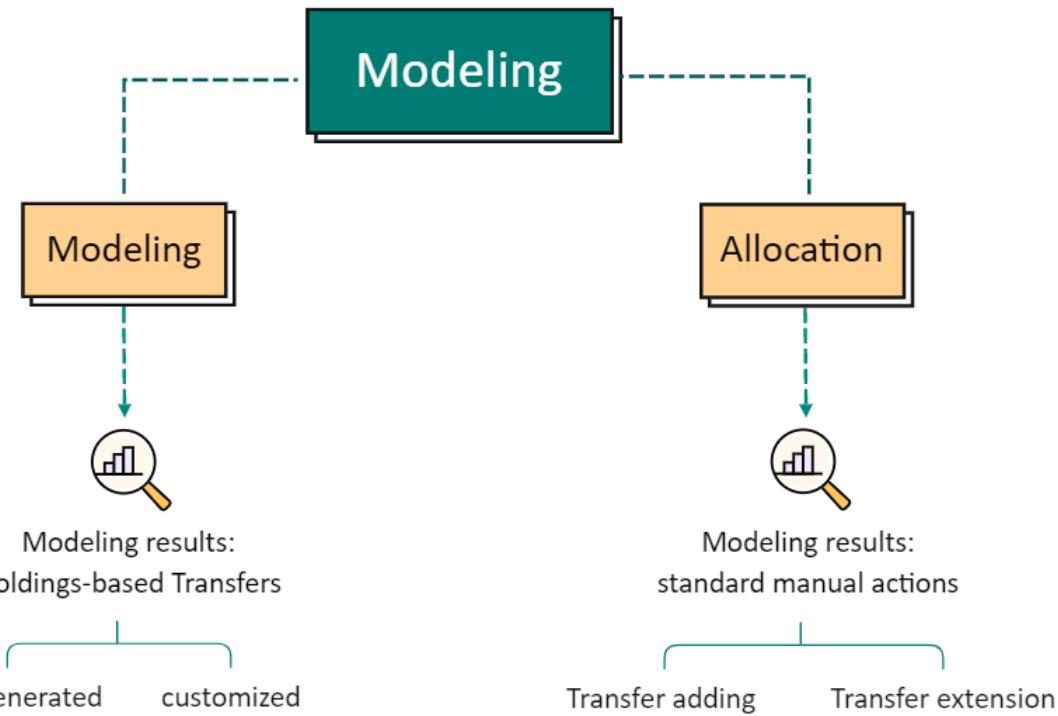
Term: **Modeling Result** is a collection of Suggested Payments produced with the Optimizer Solution according to the selected mode of the Modeling engine.

Term: **Scenario** is a named collection of Modeled Results with specific input parameters.

Modeling tab operates in two modes. User can switch between the modes by using a selector on the tab. Each mode contains different solutions with different purposes:

- Model mode: runs solutions that automatically gather information about holdings and existing setup and then expand it. All options on the Model tab are based on Holdings records used for automated generation of Payments in accordance with Holdings or Transfers/Payments of the specified Legal Entity.

- **Allocation mode:** runs solutions that are default sets of manual operations like Transfer adding, editing, or extending. They are used to automatically create predefined sets of payments with the certain transfer details, e.g., for any recurring standard procedure like dividends payment.



MODELING TAB

Modeling tab is located on the tab bar of the Cashflow Editor. It represents an operation dashboard of the Modeling tool. Modeling tab is divided in two sections:

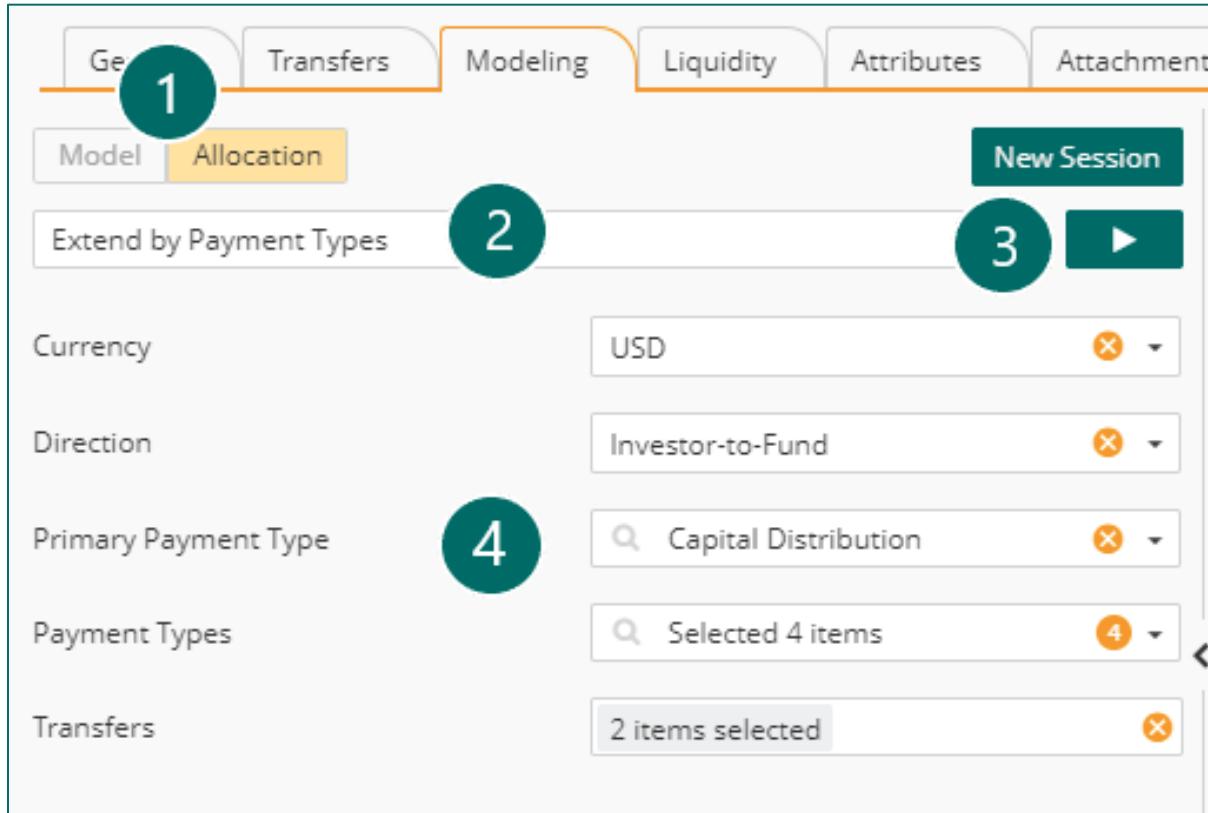
Transfer	PaymentId	Transfer Type	Is P	Type	Status	From Legal Enti
Investors	1090	Capital Call	✓	Capital Call	Posted	Washington S...
Test	1094	Capital Call	✗	Management ...	Posted	Washington S...
	1089	Capital Call	✓	Capital Call	Created	Washington S...
	1091	Capital Call	✗	Management ...	Created	Washington S...

1. **Mode Settings area:** contains mode switch and settings area. In this section users specify the input parameters and run selected Solution to generate Suggested Payments.
2. **Suggested Payments:** a grid that shows generated Suggested Payments and instruments to operate with them. Suggested Payments are grouped into Transfers. To see the details of the Payments, expand the Transfers by hitting the arrow button in the left column.

Detailed description of both section is presented in the next chapters.

MODE SETTINGS AREA

Mode Settings area is a workspace where user can configure the Solution before running it. The workspace contains a Mode switch, New session button and a pack of settings that change according to the selected Solution. The Mode Settings area is reviewed below:



1. **Mode selector:** switch between Model and Allocation modes.
2. **Solution dropdown:** select the Solution. Input parameters (4) are unique for every Solution and emerge automatically.
3. **Run Optimizer button:** runs the Solution in order to generate Modeling results.
4. **Solution input parameters:** specify the parameters for the Solution to process. Fields can be automatically predefined with the default values.

To get Suggested Payments as a result of the Solution run user must follow the next routine: start new session by clicking the corresponding button → select the Solution from the dropdown → specify input parameters → hit Run button → review the result on the grid.

INFO! For the Solutions in **Model** mode, it is possible to specify either Fund or Investor. If both are specified, the following error message is shown: *"Both Fund and Investor are specified on the Cashflow. Model works only if only Fund or only Investor is specified"*.

INFO! For some Solutions in **Allocation** mode, both Fund and Investor can be set. They will be used depending on what is set in Allocation's From and To sections (set in Reference Data → Cash/Wires → Allocation Management).

NEW SESSION BUTTON

New Session button starts a new Scenario and discards all previously created Suggested Payments.

IMPORTANT! If the New Session button is pressed after the Solutions completed their jobs, all results will be discarded and the Scenario will be created from scratch.

SUGGESTED PAYMENTS GRID

Suggested Payments grid is a display of the Modeling results: Suggested Payments produced with the completed Solution. Suggested Payments are grouped into Transfers by analogy with the general Cashflow structure.

IMPORTANT! A Transfer in Modeling is a simplified entity which groups Suggested Payments. It does not have the same set of attributes as Transfers usually have in Hazeltree application.

Once generated, Suggested Payments can be used to create other Modeling results by another Solution. The Suggested Payments section is reviewed below:

	PaymentId	Transfer Type	Is P	Type	Status	From Legal Enti
▼ Investors	1090	Capital Call	✓	Capital Call	Posted	Washington S...
	1094	Capital Call	✗	Management ...	Posted	Washington S...
▼ Test	1089	Capital Call	✓	Capital Call	Created	Washington S...
	1091	Capital Call	✗	Management ...	Created	Washington S...

- Scenario:** field where user can select an existing Scenario, or save, rename, remove, copy the current one.
- Upper toolbar:** a set of buttons that allow to *submit*, *edit*, *create*, and *delete* the Suggested Payments.
- Suggested Payments grid:** a list of Suggested Payments grouped into Transfers.

UPPER TOOLBAR

Upper toolbar of the Suggested Payments grid allows to submit, edit, create, delete, and filter Suggested Payments. It provides access to the Cashflow Editor which allows to maintain Transfers and Payments directly from this screen.

- Show attributes For:** select the entity/entities from the dropdown to expose all related UDFs (User Defined fields)
- Submit:** allows to submit selected Modeling Results to the Cashflow Management and continue through Cashflow lifecycle. Multiple items can be selected.
- Submit All:** submits all currently displayed Suggested Payments.
- Other options:** press the button to extend the Upper toolbar options:
 - Create:** opens the Create New Transfer pop-up screen. Use this option to add Suggested Payments manually or via Allocation Schema.
 - Edit:** press to edit selected Suggested Payments.
 - Remove:** press to delete selected Suggested Payments.
 - Remove All:** deletes all currently displayed Suggested Payments.
- Grid settings:** a set of standard grid options.

SHOW ATTRIBUTES FOR

Show attributes For is a dropdown that allows to expose all UDFs related to selected entities on the Suggested Payments grid. For each selected UDF entity in the filter the grid shows corresponding set of dynamic UDF columns.

Suggested Payments		Show Attributes For	Paym... X	6 more X	Submit	≡	≡	≡	≡	≡	≡
Transfer ▲											
	PaymentId	UDF Example	Transfer Type	Is P	Type	Status	From Legal Enti	From Legal Er			
▼	Transfer 2021-12-02 17:27:37	Primary money	Credit								
	5456		Credit	✓	Credit	Created	HZTTZ	Hazeltree			

NOTE! Users are able to save "Show Attributes for" filter value and selected UDF columns in custom grid layouts.

EDIT

Edit button call the **Edit Transfer** pop-up screen. It is also accessible by double-clicking on the Payment/Transfer on the grid. The screen allows to modify the Transfer and its Payments.

Edit Transfer

Transfer 1	Transfer Name Investors	Transfer Type Capital Call	Business Status	Settlement Date 7/29/2021 !	Edit					
Primary Payment 2	Type Capital Call	From Investment	To Fund A - Energy	Currency USD						
Payments Edit ▲ 3	Add By Allocation 4	Payment Type * Capital Call	Currency * USD	Amount * 0.00	Include in Total Amount As * Positive	From Legal Entity Investment	To Legal Entity Fund A - Energy	To Portfolio Fund A1	From Account Payee Investment	
		Management Fee	USD	0.00	Positive	Investment	Fund A - Energy	Fund A1	Investment	
				0.00 5						
Payments Details ▲ 6	From Washington State Investment Board	Payment Type Capital Call	Status Created	Holding Unfunded Amount	From Portfolio	To Fund A - Energy	To Portfolio Fund A1	Settlement Date 7/29/2021	Amount 0.00	Include in Total Amo Positive
	Washington State Investment Board	Management Fee	Created			Fund A - Energy	Fund A1	7/29/2021	0.00	Positive
Transfer 7	Liquidity 8	9	Close							

- Transfer:** contains General details. They can be changed by clicking the **Edit** button. **INFO!** In Modeling, the Settlement Date in Transfer section is applied to all its Payments.
- Primary Payment:** details of primary payment taken from **Payments Edit** section(3).
- Payments Edit:** contains the Payments of the Transfer available for editing. Primary Payment cannot be removed. **INFO!** All Amounts are shown as absolute values, and their sign can be seen in the column *Include In Total Amount As*.

4. **Add By Allocation:** allows to automatically add payments based on the selected Allocation schema. **INFO!** Calculator field *Amount* is now used to enter numeric fields via arithmetic expression and store the resulting value as well as the original formula entered as a string.
5. **Total amount of all payments:** a total amount of all payments considering their sign (*Positive/Negative/None* in the column *Include in Total Amount As*).
6. **Payments Details:** contains additional information on the Payments so that the user can group them by From and view the details that are not available in Payments Edit section (e.g., Settlement Date).
7. **Transfer:** in this section, one line is always shown as a separate grid for user convenience. The grid has filters and can be exported into an Excel file. It makes more convenient to see: all Credit Relationships and loaned Amounts, all From and To Legal Entities contained in the Payments grid are checked, and then all their Holdings and Positions are displayed in Liquidity section, with Currency, Fund, Investor, and other details.
8. **Liquidity:** a section that contains Holdings and Positions of Legal Entities used in the Payments. It has similar controls to Liquidity Board (Projection Schema, etc.). The only difference is that Liquidity section in Modeling tab contains only the pairs between Legal Entities from the Payments. The section is identical to the [Liquidity Board](#).
9. **Previous/Next:** switch between different Payments without opening the Payments from the grid.

INFO! When user posts Payment/Transfer, *Include In Total Amount As* is converted to *Include In Cashflow Amount As*.

ADD BY ALLOCATION

Add By Allocation button makes it possible to automatically add payments based on the selected Allocation schema. It saves time and allows to add the same Payment sets to different transfers. This option can be used for a standard procedure like Tax or Dividends payment.

Term: **Allocation schema** is a predefined set of payments with certain transfer details that can be used to automatically add Payments when it is necessary. For example, an Allocation schema allows user to automate any recurring standard procedure like dividends or taxes payment.

Allocation Schema pop-up is opened in read-only mode and cannot be edited directly from the editor. In order to edit the allocation Schema, one must refer to the *Reference Data module*.

INFO! If the box **Use Primary Payment Details** is checked, all Fund and Investor details as well as Settlement Date are taken from Primary Payment.

Once Apply is clicked, all Payments from the Allocation schema are be added to Payments' list.

CREATE

Create button calls the **Create New Transfer** pop-up screen. It allows user to create a new transfer manually or by using the *Allocation Schema* instrument.

All mandatory fields must be specified. Otherwise, the editor will not allow to save the Transfer. The form of the editor and the amount of fields is identical to the editor of the *Edit Transfer* pop-up screen.

In order to automate the process of the Transfer creation, press *Allocation* button. This will allow to automatically create a suggested transfer with payments in accordance with selected Allocation schema:

Add Payments from Allocation

Allocation Schema *	<input type="text" value="Autofill - Autofill"/>		
Fund	<input type="text" value="Fund A - Energy"/>		
Allocation Name	Allocation Type	Company	Active
Autofill - Autofill	Cashflow	Partners	<input checked="" type="checkbox"/>
Value Type	Transfer Type	Primary Payment Type	Settlement Date Offset
Amount	Capital Call	Capital Call	0
Description			

Details											
Payment Type	Currency	Amount	Include in Total Amount as	From Origin	From Legal Entity	From Portfolio	To Origin	To Legal Entity	To Portfolio	Classification	
Capital Call	USD	2,500.00	Positive	AutoFill			AutoFill				

Once the Allocation Schema is selected, the payments appear in Details section according to that schema. After applying changes, the Transfer will show the Transfer type, From/To, Primary Payment, Currency, Amount.

NOTE! The **Settlement Date** parameter is filled in as follows: current/present date + number of days specified in *Settlement Date Offset* (if not specified, the current date is used as Settlement date).

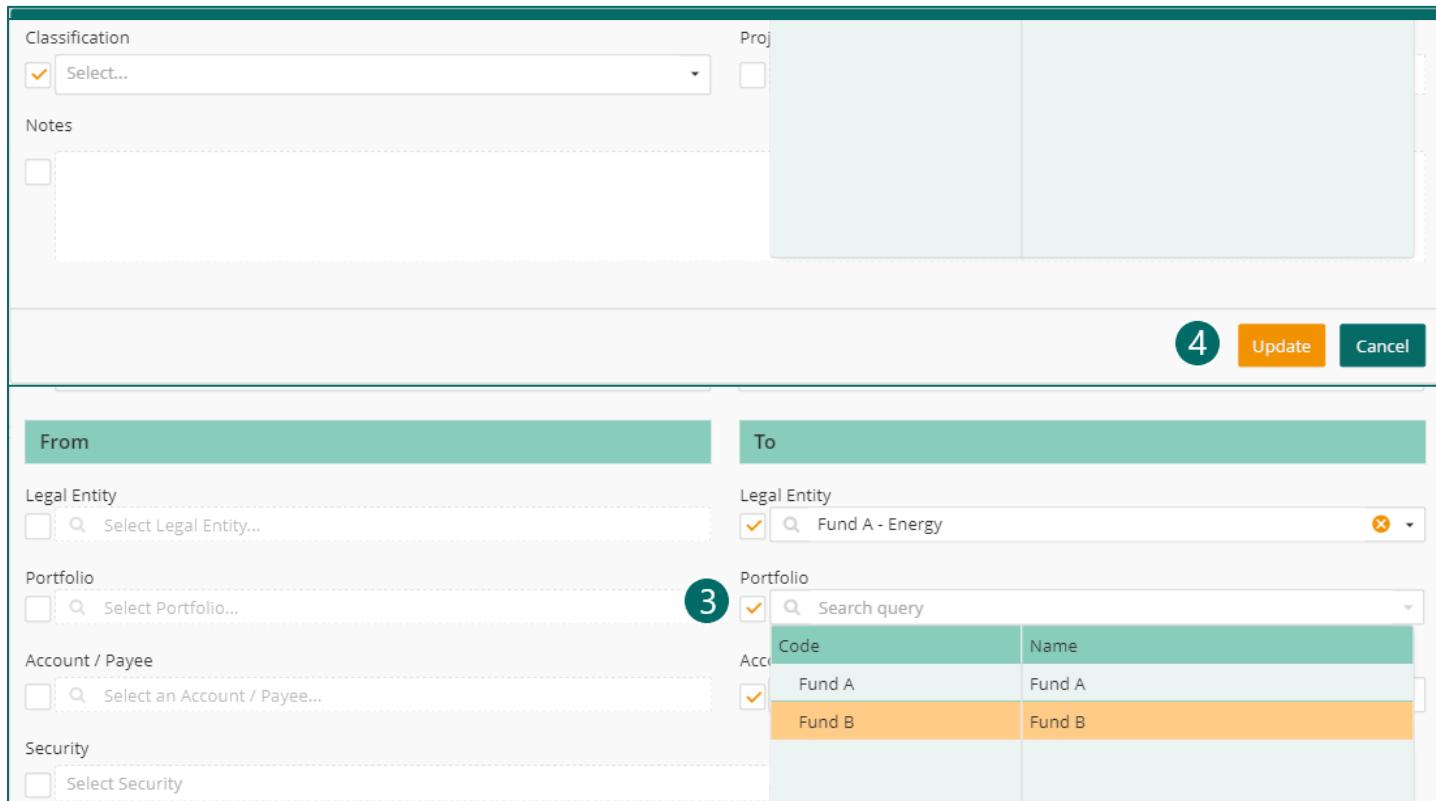
BULK UPDATE

Bulk update is a context menu option that allows to edit some fields of multiple items on the Suggested Payments grid. The option become available in the context menu only when numerous items are selected.

Suggested Payments

	PaymentId	Transfer Type	Is P	Type	Status	From Legal Enti
▼ Fund A	9261	Capital Call	<input checked="" type="checkbox"/>	Capital Call	Created	Fund A
	9262	Capital Call	<input type="checkbox"/>	Capital Distrib...	Created	Fund A
	9263	Capital Call	<input type="checkbox"/>	Debt Premiu...	Created	Fund A
▼ Fund B	9255	Capital Call	<input checked="" type="checkbox"/>	Capital Call	Created	Fund A

INFO! Bulk update allows to update only common fields. Hence, it is possible to select Payments from different Transfers for the Bulk Update. See the Bulk Update screen below:



The screenshot shows the Bulk Update interface. At the top, there are fields for 'Classification' (with a 'Select...' button) and 'Proj' (with a checkbox). Below these are 'Notes' and a large text area. On the right, there are buttons labeled '4' (highlighted with a red circle), 'Update' (orange), and 'Cancel' (green).

The main area is divided into 'From' and 'To' sections. The 'From' section contains fields for 'Legal Entity' (with a 'Select Legal Entity...' button), 'Portfolio' (with a 'Select Portfolio...' button), 'Account / Payee' (with a 'Select an Account / Payee...' button), and 'Security' (with a 'Select Security' button). The 'To' section has similar fields. A callout bubble labeled '3' points to the 'Portfolio' field in the 'To' section, which displays a dropdown menu with a search query and a grid of results.

Code	Name
Fund A	Fund A
Fund B	Fund B

1. In **Copy from Payment** dropdown, select a Payment to copy the parameters from.
2. Click **Apply**. After that, the fields will automatically be filled in in accordance with the selected Payment.
3. Edit all necessary values by checking the boxes next to the corresponding fields.
4. Click **Update**. Once it is done, the made changes will be applied to all selected payments.

NOTE! It is possible to set a negative value in Amount field. In this case, the value of parameter *Include In Total Amount As* is automatically changed to *Negative*.

REMOVE ALL

Remove All purges all produced Suggested Payments from the grid.

IMPORTANT! Remove All cleanses the grid but does not start a new Scenario: the current session continues. In order to produce a new Scenario from scratch, use the **New Session** button on the *Mode Settings* area.

The data can be removed from the grid for generating new data in frames of the current Scenario. A Scenario can also be:

- **Saved**: click on the Scenario, name it and press ✓
- **Removed**: purged from the dropdown.
- **Renamed**: type a new name for the Scenario.
- **Copied**: click the Copy button.

CUSTOM COLUMNS

Suggested Payments grid (as well as the rest of the grid available on editors pop-up screens) provides with an option to create custom columns where client-specific checks can be performed. To create new custom column, use the Grid Designer tool built in every grid.

For example, if Commitment amount is equal to 0, it will mean that the Holding is no longer valid. To mark invalid Holdings on the grid, the user adds a Custom Column named Holding check, and sets the condition in Expression field:

	New Field	PaymentId	Transfer Type	Is P	Type	Status	From Legal Enti
LEC	0.00	1089	Capital Call	<input checked="" type="checkbox"/>	Capital Call	Created	Washington S...
	0.00	1091	Capital Call	<input type="checkbox"/>	Management ...	Created	Washington S...
Investors	0.00	1087	Capital Call	<input checked="" type="checkbox"/>	Capital Call	Created	Washington S...
	0.00	1093	Capital Call	<input type="checkbox"/>	Management ...	Created	Washington S...
	0.00	1092	Capital Call	<input type="checkbox"/>	Management ...	Created	Washington S...

After saving, the column Holding check is available in Column Chooser. Once Commitment amount of any Holding is 0, the line is highlighted in red on the grid.

MODEL MODE

Model Mode offers a selection of Solutions that retrieve data from Holdings of a specified Legal Entity and generate Suggested Payments based on Holdings data and Allocation schema (if specified). For example, if a Legal Entity has four Holdings, the solution will create four Transfers: one per Investor.

NOTE! If a specified Legal Entity has no valid Holdings, an error message will be displayed.

If Holdings contain two or more identical Legal Entity pairs, the Solution uses the last available one. If there are two identical Legal Entity pairs in Legal Entity structure → Holdings, the Solution will check which of two these pairs is the last available one and generate a Transfer based only on that one.

The next Solutions are available under the Model mode:

The screenshot shows the HAZELTREE software interface in Model mode. At the top, there is a horizontal navigation bar with tabs: General, Transfers, Modeling (which is highlighted in orange), Liquidity, Attributes, Attachments, and Notes. Below this, there is a secondary navigation bar with tabs: Model (highlighted in yellow) and Allocation. On the right side of the interface, there is a green button labeled "New Session". Below the navigation bars, there is a list of solution names. The "Capital Activity by Allocation" solution is highlighted with a yellow background. Other listed solutions include Capital Activity - Extend, Capital Activity by Allocation, Capital Activity by Payment Types, and Capital Activity Replicate.

CAPITAL ACTIVITY – EXTEND

Capital Activity – Extend solution adds selected Payment Types to any existing Transfer(s). The input parameters are:

1. **Payment Types:** any types of Payments to be generated in specified Transfers.
2. **Transfers:** select Legal Entity's Transfers that must be extended.

CAPITAL ACTIVITY BY ALLOCATION

Capital Activity by Allocation solution generates Suggested Payments in accordance with selected **Allocation schema**.

Term: **Allocation schema** is a predefined set of payments with certain transfer details that can be used to automatically add Payments when it is necessary. For example, an Allocation schema allows user to automate any recurring standard procedure like dividends or taxes payment.

ALLOCATION SCHEMA

Allocation schemas can be managed on the screen Cash/Wires (*Reference Data module*). Allocation has three types of data population:

- **Fund**
- **Investor**
- **Auto-Fill**

The type can be specified in the *Add/Edit Allocation* parameter (field *Origin*). Depending on the Modeling mode and population type, From and To fields of Legal Entities will be filled in differently. If a Fund is specified in Allocation schema, it will be filled in from the Cashflow general settings or from the data retrieved from Holdings.

The settings of currently selected Allocation schema can be viewed by clicking on the arrow next to the Allocation Schema field in Solution settings:

The screenshot shows the Allocation schema settings in the Solution settings interface. On the left, there is a dropdown menu labeled "Allocation". Next to it is a search bar with the placeholder "Autofill - Autofill". On the right, there is a "View Allocation" button and a small icon with a red "X" and a circular arrow.

The input parameters of the Capital Activity by Allocation solution are:

1. **Override Allocation Currency:** allows to generate Suggested Payments with a specified currency instead of the one specified in Holdings and Positions.
2. **Settlement Date:** the value is taken from the Cashflow's general settings.
3. **Allocation:** contains the list of available Allocation schemas.
4. **Currency:** the value is taken from the Cashflow's general settings.
5. **Business Status:** a customer specific optional field that marks the business deal progression.

NOTE! If a Fund is specified, all its Investors are found. The data source is Fund's Holdings. If Investors are found, the Transfer is created for each Investor.

CAPITAL ACTIVITY BY PAYMENT TYPES

Capital Activity by Payment Types solution generates Transfers with Suggested Payments of selected types. For each Holding of the specified Legal Entity, one Transfer is generated. The solution has the following input parameters:

1. **Settlement Date/Currency:** values are taken from the Cashflow's general settings.
2. **Direction:** an optional parameter that defines the role of the specified Legal Entity (*Investor-to-Fund, Fund-to-Investor*). It can be left blank.
3. **Primary Payment Type:** select the type of each Transfer's Primary Payment. The default Primary Payment Type is *Capital Call*.
4. **Payment Types:** other values can be selected for other Suggested Payments.
5. **Business Status:** a customer specific optional field that marks the business deal progression.
6. **Transfer Type:** defines Legal Entities to be used by solution. For each Transfer, the solution finds Holdings of the specified Legal Entity of the selected Direction and generates the set of Suggested Payments of the specified types.

DIRECTION PARAMETER

Direction is an optional parameter that defines what Holdings will be used by the solution to create Suggested Payments. It uses only those Holdings where the Legal Entity matches selected Direction. The parameter has three available options:

- **Blank:** Suggested Payments are generated with no From and To Legal Entity fields.
- **Fund-to-Investor:** Suggested Payments are generated with Fund value in From Legal Entity and Investor value in To Legal Entity (Fund and Investor are derived from Holdings).
- **Investor-to-Fund:** Suggested Payments are generated with Investor value in From Legal Entity and Fund value in To Legal Entity (Fund and Investor are derived from Holdings).

For example, Bank A is specified in the Cashflow as a Legal Entity. The Direction is set as *Investor-to-Fund*. In this case, regardless of whether Bank A is specified as a Fund or Investor in the Cashflow, the solution will use only those Holdings where Bank A serves as an Investor.

CAPITAL ACTIVITY REPLICATE

Capital Activity Replicate solution creates Suggested Payments for Cashflows' Fund or Investor Holdings based on the selected Transfer of already generated Suggested Payments as a template. The input parameters of the solution are:

1. **Direction:** parameter that defines what Holdings will be used by the solution to create Suggested Payments based on the Legal Entity (*Investor-to-Fund, Fund-to-Investor*). This parameter is mandatory for the Capital Activity Replicate solution.

2. **Source Transfer:** select the Transfer as a basis for the Capital Activity Replicate work. The source of available Transfers is the Suggested Payments grid.

INFO! Once **Run Optimizer** button is pressed, the whole session is re-written with three new Transfers that have the same number of payments and types set as the *Source Transfer*. Similar to the Capital Activity by Payment Types solution, Capital Activity Replicate finds all Holdings of matching direction of the Legal Entity and creates a Transfer for each Holding.

EXAMPLE

User Cletus has run a solution **Capital Activity by Payment Types** for a specified Legal Entity. Since that Legal Entity had three Holdings matching the specified direction (*Investor-to-Fund*), three Transfers were generated:

The screenshot shows the HazelTree software interface. On the left, there's a sidebar with tabs for 'Model' and 'Allocation', and a 'New Session' button. Below these are dropdowns for 'Settlement Date' (8/30/2021), 'Currency' (USD), 'Direction' (Investor-to-Fund), 'Primary Payment Type' (Asset Purchase), and 'Payment Types' (Asset Purchase, Management Fee). A 'Transfer Type' dropdown is also present. On the right, a large grid titled 'Suggested Payments' lists transfers for various entities. The grid columns include Transfer ID, Payment ID, Transfer Type, Is Primary, Type, Status, From Legal Ent, and To Legal Entity. The transfers listed are for Credit Facility A, Credit Facility B, and Retirement, with Asset Purchase and Management Fee types.

Then Cletus decides to edit all three Transfers. He sets *Capital Distribution* as a Payment Type instead of *Management Fee* and sets *Include in Total Amount As* to *None* value for the Primary Payment. He knows that the solution *Capital Activity Replicate* will then allow him to do so by editing only one Transfer and replicate to all other ones. The user edits the transfer named *Retirement*:

The screenshot shows the 'Edit Transfer' dialog. In the 'Transfer' section, the transfer name is 'Retirement', transfer type is 'Capital Call', business status is empty, and settlement date is '8/30/2021'. In the 'Primary Payment' section, the type is 'Asset Purchase', from is 'Retirement', to is 'Fund A', and currency is 'USD'. In the 'Payments Edit' section, under 'Add By Allocation', there are two rows. The first row has 'Asset Purc...' as the payment type, 'USD' as the currency, '0.00' as the amount, and 'None' as the 'Include in Total Amount As' value. The second row has 'Capital Distribution' as the payment type, 'USD' as the currency, '0.00' as the amount, and 'Positive' as the 'Include in Total Amount As' value. Both rows have checkboxes for 'Is Primary' and 'Is Secondary'.

Then Cletus selects a *Capital Activity Replicate* solution, sets the *Retirement* transfer as a Source Transfer, and clicks **Run Optimizer**. Once the Modeling engine does its job, the Source Transfer remains intact (as edited by user) and other Transfers are re-written according to the with the Source Transfer with new Payment IDs.

EXAMPLE (CONTINUATION)

Transfer	PaymentId	Transfer Type	Is Primary	Type	Status	From Legal Ent	To Legal Entity
Credit Facility A	9236	Capital Call	<input checked="" type="checkbox"/>	Asset Purchase	Created	Credit Facility	Fund A
	9237	Capital Call	<input type="checkbox"/>	Capital Distribution	Created	Credit Facility	Fund A
Credit Facility B	9234	Capital Call	<input checked="" type="checkbox"/>	Asset Purchase	Created	Credit Facility	Fund A
	9235	Capital Call	<input type="checkbox"/>	Capital Distribution	Created	Credit Facility	Fund A
Retirement	9232	Capital Call	<input checked="" type="checkbox"/>	Asset Purchase	Created	Retirement	Fund A
	9233	Capital Call	<input type="checkbox"/>	Capital Distribution	Created	Retirement	Fund A

ALLOCATION MODE

Allocation Mode offers Solutions that generate Suggested Payments based on the Allocation schemas, with *Fund* and *Investor* taken from the Cashflow general settings.

For some Solutions under Allocation mode, it is possible to specify both Fund and Investor – depending on what is set in Allocation's From and To sections (can be adjusted on *Reference Data → Cash/Wires → Allocation Management*).

The next Solutions are available under the Allocation mode:

ADD

Add solution adds new Payments to already generated Transfers. Payments are created for multiple Legal Entities specified in the solution itself and depend on the Autofill settings of the Allocation schema. It requires the following input parameters:

- Override Allocation Currency:** allows to generate Suggested Payments with the specified currency instead of the one specified in the Holdings and Positions used by the Solution.
- Allocation:** contains the list of Allocation schemas.
- Currency:** currency to be set for the Suggested Payments. By default, it is taken from the Cashflow's general settings.
- Legal Entity:** Legal Entity for which the Suggested Payments must be created.

EXTEND BY ALLOCATION

Extend by Allocation solution adds payments to the selected Transfer (from already generated Suggested Payments) in accordance with the specified Allocation. It requires the following input parameters:

1. **Override Allocation Currency:** parameter that allows to generate Suggested Payments with the specified currency instead of the one specified in the Holdings and Positions used by the Solution.
2. **Allocation:** dropdown that contains the list of Allocation schemas.
3. **Currency:** currency to be set for the Suggested Payments. By default, the value taken from the Cashflow's general settings.
4. **Transfers:** dropdown with the specified Legal Entity's Transfers. select the ones that must be extended.

EXTEND BY PAYMENT TYPES

Extend by Payment Types adds payments of the set type to the selected Transfers (from already generated Suggested Payments). It requires the following input parameters:

1. **Currency:** currency to be set for the Suggested Payments. By default, it is taken from the Cashflow's general settings.
2. **Direction:** an optional parameter defines what Legal Entities will be used to create Suggested Payments depending on the specified Legal Entity role (*Blank, Fund-to-Investor, Investor-to-Fund*).
3. **Primary Payment Type:** select the type of each Transfer's Primary Payment. The default Primary Payment Type is Capital Call.
4. **Payment Types:** select a type for all other Suggested Payments.
5. **Transfers:** select the Transfers that would be extended.

OVERRIDE

Override solution resets the current session and creates Transfers for multiple Legal Entities specified in the solution itself and not considering the Legal Entity specified in Fund or Investor field of Cashflow general settings. It requires the following input parameters:

1. **Override Allocation Currency:** parameter that allows to generate Suggested Payments with the Allocation schema currency.
2. **Allocation:** select an Allocation schema from the list.
3. **Currency:** currency to be set for the Suggested Payments.
4. **Legal Entity:** select a Legal Entity for which the Suggested Payments would be created.

PAYMENTS

Payments screen aggregates all Payments from all Cashflows under one management grid. The screen allows to maintain Transfers and Payments directly from this screen: it provides direct access to the Cashflow Editor.

INFO! Payment is an ultimate item in terms of the Cashflow entity: the Payments constitute Transfers; the Transfers form Cashflows. Since the Payments screen displays all existing Payments, it allows to estimate the number and scale of projected Transaction Messages.

The Payments screen is reviewed below:

Type	Status	From	From Name	To	To Name	Cashflow Code	Cashflow	PaymentId	From Portfolio	From PortfolioId	To Portfolio	To PortfolioId
Capital Call	Entered	NY State Retir	New York State	Fund A	Fund A - Energy	Fund A 100M ...	Fund A Capita...	5	New York State	New York Stat...	Fund A	Fund A
Capital Call	Entered	Washington			Fund A - Energy	Fund A 100M ...	Fund A Capita...	597			Fund A	Fund A
Management Fee	Entered	Fund A			Fund A Mana...	Fund A Mana...	614		Fund A	Fund A		
Management Fee	Entered	Fund A			Fund A Mana...	Fund A Mana...	615		Fund A	Fund A		
Capital Distribution	Draft	Fund D			John Doe	Fund D Privat...	Fund D Privat...	3149	Fund D	Fund D		
Management Fee	Draft	John Doe			Fund D - Tacti...	Fund D Privat...	Fund D Privat...	3150			Fund D	Fund D
Capital Distribution	Entered	Fund D			John Doe	Fund D Privat...	Fund D Privat...	1126	Fund D	Fund D		
Management Fee	Entered	John Doe			Fund D - Tacti...	Fund D Privat...	Fund D Privat...	1127			Fund D	Fund D
Capital Distribution	Submitted	Fund D			John Doe	Fund D Privat...	Fund D Privat...	1128	Fund D	Fund D		
Management Fee	Submitted	John Doe			Fund D - Tacti...	Fund D Privat...	Fund D Privat...	1129			Fund D	Fund D
Return of Capital	Entered	137516			Agot Provid...	DOC1	DOC1 Cashflow	3151				
Income	Entered	150817			Unthouse S...	DOC1	DOC1 Cashflow	3152				
Capital Distribution	Entered	HTCP	Hazeltree Cap...	RCP	Roman Capita...	HTCP Q3 Distr...	HTCP Q3 Distr...	2136			Roman	Roman

- Payments Upper toolbar:** contains basic filters and operational button *Details*.
- Payments grid:** displays existing Payments and their parameters.
- Context menu:** called with a right click, it displays actions that can be executed against selected Payment.

ADVANCED SEARCH

Advanced search is a special tool embedded in the Payments screen that allows to search the Cashflows by detailed parameters. To open the Advanced search pop-up screen, press on the magnifying glass icon next to the Search bar.

Advanced search

Parameter name:

Amount Min: 1000

Amount Max: 200000

Currency: KZT X

Cashflow Type: Capital Call X Capital Distribution X

Transfer Business Status: Processed X

Payment Type: Income X 2 more X

Legal Entity Type: Private Equity X

Has Attachments:

Portfolio: 1113685

Payee: 150 Monument

Search Clear Close

The Advanced search tool on the Payments screen is similar to the Advanced search tool on the Cashflows screen, however it contains a different set of filters:

- **Amount Minimum**
- **Amount Maximum**
- **Currency**
- **Cashflow Type**
- **Transfer Business Status**
- **Payment Type**
- **Legal Entity Type**
- **Has Attachments**
- **Portfolio**
- **Payee**

CONTEXT MENU

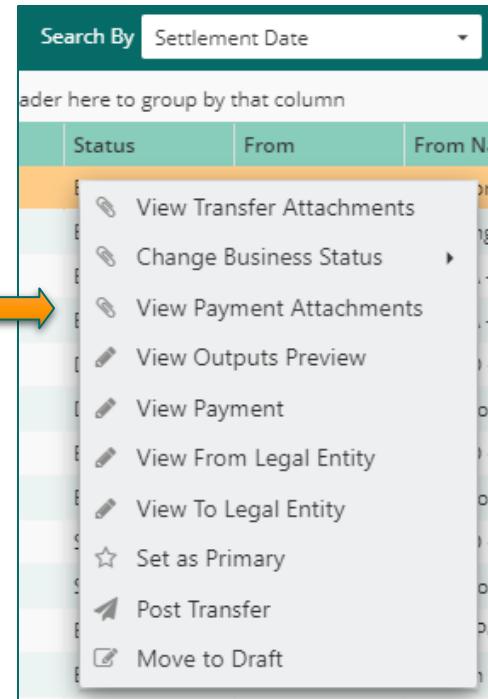
Context menu is a set of options called by right click on a Payment entity displayed on the Payments management grid. The context menu has four constant options and the options which depend the individual Legal Entity parameters of the highlighted Payment.

VIEW FROM/TO LEGAL ENTITY

View From/To Legal Entity context menu buttons call the Legal Entity Editor pop-up screen where Legal Entity of the according Payment side (From or To) can be reviewed and edited. The updates applied to the Legal Entity on the Legal Entity Editor screen will be automatically propagated to Payment, Transfer and Cashflow.

The context menu options are reviewed in the table below:

Option	Description	Specification
Change Business Status	Allows to change the business status	Constant option
View Transfer Attachments	Opens Attachment tab of the Payment's Transfer	Constant option
View Payment Attachments	Opens Attachment tab of the Payment	Constant option
View Outputs Preview	Opens Outputs Preview tab of the Payment's Transfer	Constant option
View Payment	Opens General tab in of the Payment	Constant option
View From Legal Entity	Opens Legal Entity of Payment's From side in Legal Entity Editor	Only available for Payments with specified Legal Entity for From side
View To Legal Entity	Opens Legal Entity of Payment's To side in Legal Entity Editor	Only available for Payments with specified Legal Entity for To side
Post Transfer	Transform the Payment's Transfer into Voucher	Only available for active Payments in working statuses
Move to Draft/Entered	Assign Draft/Entered status to the Payment	Only available for active Payments in working statuses



UPPER TOOLBAR

Payments Upper toolbar contains a date range selector, numerous filters that allow to locate sought-for Payments and the Details operational button.

Payments Upper toolbar is presented below:



- Search by:** dropdown that allows to switch the Payment search date parameter.
- From/To Date:** selector that allows to filter displayed Payments by adjusting the date period.
- Legal Entity:** dropdown that allows to filter displayed Payments by Legal Entity assigned in either From or To sides.
- Status:** dropdown that allows to filter displayed Payments by current status.
- Details:** the button calls Cashflow Editor screen with highlighted Payment's General tab.

The Payments Upper toolbar instruments are explicitly reviewed in the sections below.

SEARCH BY

Search By dropdown allows to select the search date parameter for the From/To date selector. It is possible to search for the Payment's Create On date, Last Modified date, Settlement date, etc. The **Pending** option triggers the Payments grid to display Payments in Pending statuses:

Type	Status
Asset Purchase	Draft

FROM/TO

From/To date selector is embedded in the Payments Upper toolbar and allows to filter Payments by adjusting the date period. The date range selector uses Payment's date parameter selected in the Search By dropdown.

LEGAL ENTITY & STATUS FILTERS

Legal Entity and **Status** filters refer to the general parameters of Payments: the Legal Entity assigned to either From or To side and the current Status accordingly. **NOTE!** It is possible to select multiple values in both filters.

DETAILS

Details Upper toolbar button is used for Payment's general parameters review. To open the details of Payment, select the Payment on the grid and press the Details button: it calls the Cashflow Editor opened on the General tab of the highlighted Payment:

The screenshot shows the Payments grid at the top with various columns like Type, Status, From Code, From, To Code, To, Cashflow Code, Cashflow, From Portfolio, From Portfolio, To Portfolio, To Portfolio, and From Account. Below the grid, a specific row for a 'Capital Call' entry is selected. A large orange box highlights the 'Cashflow Details - Fund A Capital Call 100m' editor window. This window contains tabs for General, Transfers, Modeling, Liquidity, Attributes, Attachments, Notes, References, and Audit. The 'General' tab is active, showing fields for Code (Fund A 100M), Name (Fund A Capital Call 100m), Type (Capital Call), Settlement Date (8/30/2021), Fund (Fund A), Investor (Washington State Investment Bo...), Currency (USD), Current Amount (69,295,506.01), Cashflow Business Status (Select...), Transfer Business Status (Hold Processing), Status (Draft), and Notes. Below this, there's a table for 'Add Transfer' with rows for 'Transfer 011021' (USD, 3.00, Loan, 10/1/2021), 'Include In CAA test' (USD, 35,000,000.00, Capital Call, 9/30/2021), and 'First Tranche 60m' (USD, 35,000,000.00, Capital Call, 8/30/2021). The 'Audit' tab is also visible in the Cashflow Editor.

PAYMENT TYPES

Payment entity impersonates a particular aspect of the business operation: a Transfer that, once posted, will order an asset movement. Alike other entities of the Private Markets module, Payments have a set of specific system types assigned to them in order to categorize them in relation to their data sets. The table below contains the system types:

Code	Name	System Type	Data Set
INT	Internal	Private Equity	Payments
CC	Capital Call	Private Equity	Payments
CD	Capital Distribution	Private Equity	Payments
IP	Interest Expense	Private Equity	Payments
IR	Interest Receive	Private Equity	Payments
MF	Management Fee	Private Equity	Payments
PAE	Partnership Expenses	Private Equity	Payments
CA	Carry	Private Equity	Payments
ASP	Asset Purchase	Private Equity	Payments
WT	Withholding Tax	Private Equity	Payments
RTC	Return of Capital	Private Equity	Payments
RTCS	Return of Capital - Stock	Private Equity	Payments
IN	Income	Private Equity	Payments
IC	Investor Contribution	Private Equity	Payments
ID	Investor Distribution	Private Equity	Payments
RL	Realized Loss	Private Equity	Payments
RG	Realized Gain	Private Equity	Payments
RLS	Realized Loss - Stock	Private Equity	Payments
RGS	Realized Gain - Stock	Private Equity	Payments
PRE	Property Expense	Private Equity	Payments
PRI	Property Income	Private Equity	Payments
DPR	Debt Premium Receive	Private Equity	Payments
DPE	Debt Premium Expense	Private Equity	Payments

NOTE! The default set of system types is available for every Hazeltree client that purchase the Private Markets module. In addition to the system set, Hazeltree provides with the opportunity to expand the collection of types with custom units with a Dictionary tool.

DICTIONARY

Dictionary is a Reference Data tool that allows to expand the number of Payment types and also map the Types to one another using the custom programmed condition. The Dictionary tool is accessible by the path: *Reference Data module* → *Preference folder* → *Dictionaries*.

NOTE! Mapping for Payment Types work differently from the regular mapping options available for other unit of the Hazeltree platform. In Payment Types mapping allow to create a rule with programmed conditions that will automatically change the type of the Payment when the condition is fulfilled.

The Dictionary screen is reviewed below (see next page):

The screenshot shows the Hazeltree Dictionaries screen. On the left, there's a tree view with nodes like Transactions, Portfolios, Payment Types, and Payment Type. Under Payment Type, several items are listed: Asset Purchase, Capital Call, Capital Distribution, Carry, DPE, DPR, DDP, and Income. A green circle labeled '1' is over the 'Payment Types' node, and another green circle labeled '2' is over the 'Income' item. At the top right, there are two tabs: 'Details' (highlighted with a green circle labeled '3') and 'Mappings' (highlighted with a green circle labeled '4'). The 'Details' tab contains fields: Code * (IDDP), Name * (Intercompany Drawdown), Type Class * (Private Equity), Category (Select...), GL Type (Select...), Group (Select...), Last Modified On (9/15/2021), Classification (Select...), Sub Type (Select...), Last Modified By (HTMHT), and Comment. A green circle labeled '5' is over the 'Classification' field.

1. **Payment Types:** expand the Payment Types row to review existing tabs.
2. **Code:** short code that represents each Type.
3. **Details:** tab with primary parameters of the Type.
4. **Mappings:** tab that allows to create mapping rules with defined conditions.
5. **Parameters:** specify the parameters of the Types and save it. New Types emerge automatically.

LEGAL ENTITIES

Legal Entities is a Private Market module management screen that aggregates all existing Legal Entities and allows to create, manage, and maintain the Legal Entities. The maintenance of the Legal Entities is carried out on the Legal Entities Editor screen.

The Legal Entities screen interface is reviewed below:

The screenshot shows a table titled "Legal Entity Management" with columns: Code, Name, Parent Code, Parent Name, and Type. A context menu is open over the row for "Giants". The menu items are: + Add, Edit, and Remove. The menu is numbered 3. The table has a header row and 10 data rows. The first row is highlighted in orange. The second row is highlighted in light blue. The third row is highlighted in light green. The fourth row is highlighted in light red. The fifth row is highlighted in light blue. The sixth row is highlighted in light green. The seventh row is highlighted in light red. The eighth row is highlighted in light blue. The ninth row is highlighted in light green. The tenth row is highlighted in light red.

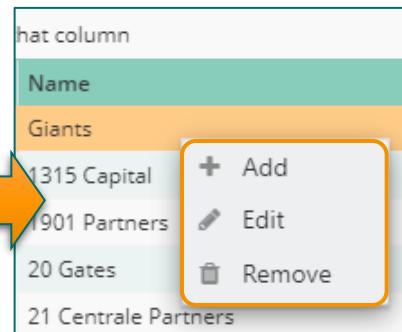
Legal Entity Management				
+ Add Edit Remove				
+ Drag a column header here to group by that column				
Code	Name	Parent Code	Parent Name	Type
Giants	Giants	Giants	Giants	Private Equity
FM - 1315 Capital	1315 Capital	FM - 1315 Capital	1315 Capital	Fund Manager
FM - 1901 Partners	1901 Partners	FM - 1901 Partners	1901 Partners	Fund Manager
FM - 20 Gates	20 Gates	FM - 20 Gates	20 Gates	Fund Manager
FM - 21 Centrale Partners	21 Centrale Partners	FM - 21 Centrale Partners	21 Centrale Partners	Fund Manager
FM - 3i Investments plc	3i Investments plc	FM - 3i Investments plc	3i Investments plc	Fund Manager
FM - 50 South Capital Advisors LLC	50 South Capital Advisors, LLC	FM - 50 South Capital Advisors LLC	50 South Capital Advisors, LLC	Fund Manager
FM - 57 Stars	57 Stars	FM - 57 Stars	57 Stars	Fund Manager
FM - 5AM Ventures	5AM Ventures	FM - 5AM Ventures	5AM Ventures	Fund Manager
FM - 704 Spadina	704 Spadina	FM - 704 Spadina	704 Spadina	Fund Manager

1. **Legal Entities Upper toolbar:** the ribbon with three operational buttons.
2. **Legal Entities grid:** displays existing Legal Entities and their parameters.
3. **Context menu:** displays actions that can be executed against selected Legal Entity.

CONTEXT MENU

Context menu is a set of options called by right click on a Legal Entity displayed on the grid. The context menu has three constant options (they are also embedded in the Upper toolbar):

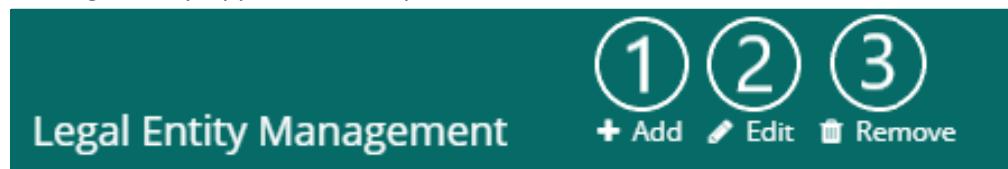
- **Add:** press to call the New Legal Entity screen which is a blank Legal Entity Editor screen with empty parameters fields and blocked options bar.
- **Edit:** press to call the Legal Entity screen which is a Legal Entity Editor screen with specified parameters of the Legal Entity selected on the grid.
- **Remove:** press to delete selected Legal Entity.



UPPER TOOLBAR

Legal Entities Upper toolbar contains operational buttons that allow to create new Legal Entities or edit and delete existing Legal Entities.

The Legal Entity Upper toolbar is presented below:



1. **Add:** press to call the New Legal Entity pop-up screen in order to create a new Legal Entity.

2. **Edit:** press to call the Legal Entity Details pop-up screen in order to modify existing Legal Entity.
3. **Remove:** press to delete selected Legal Entity.

ADD/EDIT LEGAL ENTITIES

Add and **Edit** Upper toolbar buttons are used to create new Legal Entities or to modify existing Legal Entities accordingly. To create or edit a Legal Entity, press Add/Edit button (or utilize Add/Edit context menu options).

 **Add**  **Edit**

Both buttons call Legal Entity Editor pop-up screen which can be opened in two modes:

- **Add button:** calls the New Legal Entity screen which is a blank Legal Entity model with empty parameters fields and blocked options bar.
- **Edit button:** calls the Legal Entity Details screen which contains all previously specified Legal Entity details. No options are blocked in this mode.

Term: **Legal Entity Editor** is a tool designed to create and manage Legal Entities. The Legal Entity Editor contains different tabs and fields that reflect all possible business aspects of Legal Entity, its Holdings, assets, and other components. In order to designate the ownership of Portfolios, the Portfolios can be assigned to the Legal Entities. Created Legal Entities are used in Cashflows.

The Legal Entity Editor is a complex multi-section tool. It is explicitly reviewed here: [Legal Entity Editor](#).

VIEW FROM/TO LEGAL ENTITY

The Legal Entities are frequently used in the specification of Cash positions. That allows to supplement more details for positions which makes management easier and more efficient. In order to support this level of specification, the Dashboard screen has a set of columns that can be positioned on the grid and provide the Legal Entities details:

- **Portfolio_LegalEntityCode**
- **Portfolio_LegalEntityName**
- **Portfolio_LegalEntityTypeCode**
- **Portfolio_LegalEntityTypeName**
- **Portfolio_RootLegalEntityCode**
- **Portfolio_RootLegalEntityName**
- **Portfolio_RootLegalEntityTypeCode**
- **Portfolio_RootLegalEntityTypeName**

NOTE! If the columns show no values, it means that the Legal Entities are not assigned to the Cash entry's Portfolio.

LEGAL ENTITY EDITOR

Legal Entity Editor is a tool designed for Legal Entities creating, management and maintenance. The Legal Entity Editor provides with instruments for detailed specification of the Legal Entity and its business issues. The Editor is accessible from the **Payments** context menu and **Legal Entities** screen. It is also embedded in the **Legal Entity Structure** screen.

The Legal Entity Editor screen interface is presented below:

1. **Legal Entity Editor screen:** press Add or Edit buttons to call the Legal Entity Editor pop-up screen.
2. **Legal Entity basic data section:** contains individual naming attributes and the Legal Entity Type dropdown.
3. **Legal Entity tab bar:** contains options for detailed Legal Entity specification. Each tab opens an individual workspace.
4. **Option workspace:** working area for selected Legal Entity option. Each tab opens an individual workspace.
5. **Operational buttons:** standard buttons set of the Legal Entity Editor.

NOTE! The number of Legal Entity Editor's tabs depends on the Type of the Legal Entity and their Parent Legal Entity parameter.

The Legal Entity Editor, alike the Cashflow Editor, can be called with two operational Upper toolbar buttons (**Add** and **Edit**) available on Legal Entities screen. Therefore, it can be opened in two modes:

- **New Legal Entity screen:** called with Add button.
- **Legal Entity Details screen:** called with Edit button.

Both screens vary about Legal Entity tab bar availability: New Legal Entity screen tabs are unavailable unless the Legal Entity is saved with specified mandatory parameters.

BASIC DATA SECTION

Legal Entity basic data section contains three mandatory parameters which must be specified in order to create a new Legal Entity. All tabs but General in Legal Entity Editor's tab bar will remain unavailable unless the mandatory fields are specified.

The Legal Entity basic data section is shown below:

Code Textron	Name* Textron Master Trust	Type Private Equity
-----------------	-------------------------------	------------------------

1. **Code***: short reasonable Code that defines the Legal Entity. The Code does not tolerate special symbols and spaces. This field is mandatory and becomes read-only after the Legal Entity is saved.
2. **Name***: explicit Name of the Legal Entity. The Name field is allowed to contain special symbols and spaces. This field is mandatory.
3. **Type***: select an appropriate Type that defines Legal Entity's business sphere. The available Types set is individual for every Hazeltree client and is configured during the Hazeltree platform deployment. This field is mandatory.

LEGAL ENTITY TYPE

Legal Entity Type is selected from the Type dropdown during the initial Legal Entity's parameters specification. The pool of available Legal Entity's Types is preinstalled individually for every Hazeltree client during the Hazeltree platform deployment according to the client's business requirements. All Legal Entity Types are divided into two major groups:

- **General**: budgeting business affairs participants (e.g. Bank, Corporate, Custodian)
- **Financial Institution**: partnership contracts parties (e.g. Fund, Investment, Investor)

IMPORTANT! After the Legal Entity is saved with primary mandatory parameters it is impossible to select Legal Entity Type of a different group: e.g. Fund Type can be only changed to Investment or Investor; General Types become unavailable.

Type*

Choose Type...

Asset Ma...	Financial Institution
Bank	General
Collateral...	Financial Institution
Corporate	General
Custodian	General
Fund Adm...	General
Hedge Fu...	Financial Institution
Investor	Financial Institution
ISDA	General
Issuer	General

LEGAL ENTITY TAB BAR

Legal Entity tab bar is the main Legal Entity control console. It contains a standard set of instruments for detailed specification of the Legal Entity's business parameters (like Holdings and Positions), and system settings (like System Entities and Message Layouts).

The Legal Entity tab bar is presented below:



1. **General**: primary business parameters of the Legal Entity.
2. **Corporate**: specific information regarding the business issues of the Legal Entity.
3. **Holdings**: collection of the Legal Entity's Holdings.
4. **Relationships**: list of all parent and child Legal Entities associated with this Legal Entity.
5. **Positions**: collection of Legal Entity's Positions.
6. **Share Classes**: set of created Share Classes used by the Legal Entity as a Fund party.
7. **System Entities**: any Reference Data entities associated with the Legal Entity.
8. **Attachments**: container of files and notes assigned to the Legal Entity.

9. **References:** list of custom external references of the Legal Entity.
10. **Message Layouts:** collection of created Message and Report Templates available for the Legal Entity. A Message Layout describes the output that can be created when the transaction flow ends.
11. **Communication Profiles:** list of report profiles associated with the Legal Entity.
12. **Contacts:** list of custom external contacts.
13. **Attributes:** collection of all custom attributes assigned to the Legal Entity.

IMPORTANT! The number of tabs on the Legal Entity tab bar entirely depends on the Legal Entity Type. Some tabs are only available for the Financial Institution Type. The reference between Legal Entity Type and available tab is shown on the table below:

Tab	Legal Entity of General Type	Legal Entity of Financial Institution Type
General	✓	✓
Corporate	✓	✓
Holdings	✓	✓
Relationships	✓	✓
Positions		✓
Share Classes		✓
System Entities	✓	✓
Attachments	✓	✓
References	✓	✓
Message Layouts	✓	✓
Communication Profiles	✓	✓
Contacts	✓	✓
Attributes	✓	✓

GENERAL TAB

General tab is available for all Legal Entities regardless of their Type. The *General* tab contains primary business parameters of the Legal Entity. **NOTE!** Despite the General tab availability does not depend on selected Type, the number of fields displayed on the workspace vary in correspondence with Legal Entity Type.

The General tab is presented below:

The screenshot shows the 'General' tab workspace for a legal entity. The top navigation bar includes tabs for General, Corporate, Holdings, Relationships, Positions, Share Classes, System Entities, Attachments, References, Message Layouts, Communication Profiles, and Contacts. The 'General' tab is highlighted. Below the tabs are various input fields and dropdown menus, each labeled with a circled number from 1 to 13.

- 1. Parent Legal Entity dropdown showing 'Investors'.
- 2. Middle Office Owner search field showing 'Yad lev'.
- 3. Currency dropdown showing 'USD'.
- 4. Vintage date dropdown showing '8/7/2020'.
- 5. Size input field showing '50,000,000.00'.
- 6. Country dropdown showing 'USA - United States'.
- 7. Region dropdown showing 'America'.
- 8. Investment Region dropdown showing 'Ohio'.
- 9. Business Unit dropdown showing 'HQ'.
- 10. Industry dropdown showing 'Consumer Finance'.
- 11. Last Connection Date dropdown.
- 12. Description input field containing 'Test Legal Entity for the official documentation'.
- 13. Description input field containing 'Test Legal Entity for the official documentation'.

1. **General:** press General tab to open the General workspace.
2. **Parent Legal Entity:** select parent Legal Entity from the dropdown. Leave empty if the Legal Entity has no parent.
3. **Currency:** select basic currency of the Legal Entity.
4. **Vintage***: select the vintage date. **NOTE!** Field is available only for Legal Entities of the *Financial Institution* Type.

5. **Size:** specify the business size or assets values of the Legal Entity. **NOTE!** Field is available only for Legal Entities of the *Financial Institution* Type.
6. **Country:** select the country of the Legal Entity basing.
7. **Region*:** specify the region of the Legal Entity basing. This field is read-only and updates automatically according to the selected Country field.
8. **Investment Region:** specify the investment region of the Legal Entity.
9. **Business unit:** specify the basic business unit of the Legal Entity.
10. **Industry:** select the industry area of the Legal Entity
11. **Last Communication Date:** specify the day of the last communication with its representative.
12. **Middle Office Owner:** select the person from the dropdown for the office owner entitlement.
13. **Description:** compliment the Legal Entity with the description of important business details.

CORPORATE TAB

Corporate tab is for all Legal Entities regardless of their Type. The Corporate tab contains different parameters regarding business details of the Legal Entity: Line of Business, Governing Type, Incorporation Type, etc.

NOTE! These fields are optional, and all of the parameters can be left unspecified. They were designed to provide more details for the Legal Entities and support the required level of specification.

The Corporate tab is presented below:

Corporate		Attributes	Holdings	Relationships	Positions	Share Classes	System Entities	Attachments	References	Message Layouts	Communication Profiles
States	LEI		Date Incorporated								
Choose state...											
Company Status	Ticker	LPOFFW	Date Dissolved								
Active											
Listing Status	Line Of Business	Equities	Regulatory Type	CPO							
Listed											
Governing Type	Incorporation Type	General Partnership									
Manager(s)											

1. **Corporate:** press Corporate tab to open the Corporate workspace.
2. **Business parameters:** set of fields for business aspects and details (States, LEI, Company Status, Ticker, etc.)

ATTRIBUTES TAB

Attributes tab is available for all Legal Entities regardless of their Type. The Attributes tab a list of custom attributes that are assigned to the Legal Entity to provide more specification on the item

INFO! The Attributes scope is wide enough to specify the Legal Entity in any possible dimension and value (decimal, text, Boolean, date, percent, etc.).

The Attributes tab is presented below (see next page):

The screenshot shows the 'Attributes' workspace. At the top, there are tabs: General, Corporate, Attributes (highlighted in orange), Holdings, Relationships, Positions, Share Classes, System Entities, and Attachments. Below the tabs is a toolbar with buttons for Add, Edit, and Remove, circled as 2. A main grid displays attributes with columns: Type, Name, Description, Value, and Class. The first row has Type 'Text', Name 'Text value', Description 'Sample text legal entity UDF', Value 'NOTE! 100096 class', and Class empty. The second row has Type 'Integer', Name 'Integer value', Description 'Sample integer legal entity UDF', Value '42', and Class 'Default'. The third row has Type 'Date and Time', Name 'DateTime value', Description 'Sample date and time legal entity UDF', Value '8/18/2020, 8:49:00 PM', and Class empty. To the right of the grid is an options panel with icons, circled as 4. A large green circle labeled 1 is positioned above the tabs.

1. **Attributes:** press Attributes tab to open the Attributes workspace.
2. **Upper toolbar:** a set of buttons that allow to *create*, *edit*, and *delete* the Attributes.
3. **Attributes grid:** contains a list of all Attributes with their parameters.
4. **Options panel:** standard grid instruments set.

NOTE! It is impossible to have two different values for the same UDF on entity.

HOLDINGS TAB

Holdings tab displays all Legal Entity's Holdings and allows to create and maintain Holding items.

Term: **Holding** is a Legal Entity basic item that regulates the relations between Investor and Fund. It is a digital version of a contract that describes terms and conditions of a financial agreement and contains detailed information of investments for a specified date. It also represents a structured set of parameters of both parties interlinked via special entity: **Share Class**. Share Classes are created on the Share Classes tab.

The Holdings tab is presented below:

The screenshot shows the 'Holdings' workspace. At the top, there are tabs: General, Corporate, Attributes, Holdings (highlighted in orange), Relationships, Positions, Share Classes, System Entities, Attachments, References, Message Layouts, and Communication Profiles. Below the tabs is a toolbar with buttons for Add, Edit, and Copy, circled as 3. A main grid displays holdings with columns: Date, CCY, Category, Fund, Fund Name, Fund CCY, Share Class, AUM, Portfolio, and Portfolio N. The first row has Date '8/7/2020', CCY 'EUR', Category 'FM - Indochina Capital', Fund 'Indochina Capital', Fund Name 'Indochina Capital', Fund CCY empty, Share Class 'Default', AUM empty, Portfolio empty, and Portfolio N empty. To the right of the grid is an options panel with icons, circled as 5. A large green circle labeled 1 is positioned above the tabs. A green circle labeled 2 is over the date selector. A green circle labeled 4 is over the grid. A green circle labeled 3 is over the toolbar.

1. **Holdings:** press Holdings tab to open the Holdings workspace.
2. **From/To date selector:** allows to filter displayed Holdings by adjusting the date period.
3. **Upper toolbar:** a set of buttons that allow to *add*, *edit*, and *make copies* of Holdings.
4. **Holdings grid:** contains a list of all Holdings created for the Legal Entity which fit in specified date range.
5. **Options panel:** standard grid instruments set.

INFO! The Holdings created under the Legal Entities automatically populate the screen [Liquidity Board](#). The Liquidity Board screen displays all existing Holding and Positions along with their parameters specified on the **Investor Holding** screen. The Investor Holding screen is called by clicking *Add* or *Edit* Upper toolbar buttons.

INVESTOR HOLDINGS SCREEN

Investor Holdings screen is a multi-section form that allows to manage Legal Entity's Holdings. The screen contains mandatory fields that must be set to create a Holding, optional parameters which can be used to provide maximum transparency of the Holding's details, and UDFs (User-Defined Fields).

The Investor Holdings screen is reviewed below:

The screenshot shows the 'Investor Holdings as of 8/7/2020' screen. It is a multi-section form with the following sections and their corresponding numbers:

- Section 1:** Top header.
- Section 2:** Investor section.
- Section 3:** Date field (mandatory).
- Section 4:** Investor dropdown (mandatory).
- Section 5:** Currency dropdown (mandatory).
- Section 6:** Fund section.
- Section 7:** Fund dropdown (mandatory).
- Section 8:** Fund Currency (read-only).
- Section 9:** Last Reported MV Date.
- Section 10:** Share Class dropdown (mandatory).
- Section 11:** Share Class Portfolio (read-only).
- Section 12:** Category.
- Section 13:** Last Reported IRR.
- Section 14:** FX Rate.
- Section 15:** Total Contribution Percent.
- Section 16:** Ownership Percent.
- Section 17:** Ownership Percent Vehicle.
- Section 18:** Local Currency: EUR.
- Section 19:** Select Fund Currency.
- Section 20:** Operational buttons: Save, Save and Close, Cancel.

- New Investor Holdings:** press Add or Edit to call the New Investor Holdings pop-up screen.
- Investor section:** contains basic Investor parameters.
- Date*:** select the date of the Holding's organization. This field is mandatory.
- Investor*:** select Investor from the list of available Legal Entities. This field is mandatory.
- Currency*:** select Currency of the Investor. This field is mandatory.
- Fund section:** contains basic Fund parameters.
- Fund*:** select Fund from the list of available Legal Entities with Fund Type. This field is mandatory.
- Fund Currency*:** automatically specified Currency of selected Fund. This field is read-only.
- Last Reported MV Date:** specify the date of the last reported market value.
- Share Class*:** select Share Class from the pool of created Share Classes associated with selected Fund.
- Share Class Portfolio*:** automatically specified Portfolio associated with selected Share Class. This field is read-only.
- Category:** specify the Holding's category.
- Last Reported IRR:** specify the date of the last reported internal rate of return.
- FX Rate:** specify FX Rate of the Holding's Currency.
- Total Contribution Percent:** specify custom Holding's parameter of its contribution share.
- Ownership Percent:** specify custom Holding's parameter of the ownership percentage.
- Ownership Percent Vehicle:** specify custom Holding's parameter of the ownership percentage vehicle.
- Local Currency section:** set of Investor Currency related parameters. All parameters are custom.
- Fund Currency section:** set of Fund Currency related parameters. All parameters are custom.
- Operational buttons:** designed to operate with created Holding.

SHARE CLASS IN HOLDING EDITOR

Share Class is a connecting link between Fund and Investor business relations. It represents any common business entity or intermedium which is required for both parties' partnership in frames of particular Legal Entity. Share Class correlates with selected Fund and is selected from the pool of created Share Classes for said Fund. Share Classes are created on corresponding tab Share Classes:

Fund

Fund*

Regina Civic Employees' Superannuation & Benefit Plan

Share Class*

Default

Default

Share Class Portfolio

Total Contribution Percent

INFO! The Share Class carries associated Portfolio which populates the according field in Holdings Editor automatically.

IMPORTANT! The Fund with no specified Share Classes cannot be used in Holding specification, therefore, the Holding cannot be completed. It is essential to provide the preparation of the Fund which participates in the Holding and its Share Classes with specified Investor partner.

LOCAL CURRENCY & FUND CURRENCY SECTIONS

Legal Entity Holdings can have assets in Currency that is different from the Currency of the Fund. Sections **Local Currency** & **Fund Currency** possess a collection of parameters that allow to keep figures in corresponding Currencies if they mismatch. When Holdings and Fund Currencies do match, users can still keep figures in both sections:

Unfunded Amount	Recallable Distribution Amount	Total Contribution Amount	Total Distribution Amount
Commitment Amount	Commitment Reducing Amount	Total Income	
MV	NAV	Cost	Alternate Cost
DPI	TVPI		
Total Capital Call Amount	Total Realized Gain	Total Return of Capital	Total Temp. Return of Capital
Total Management Fees Inside	Total Management Fees Outside	Total Partnership Expenses Inside	Total Partnership Expenses Outside
Other Liabilities	Guarantees		

NOTE! If Fund has no Currency associated with it, the Fund Currency section is unavailable.

RELATIONSHIPS TAB

Relationships tab is available for all Legal Entities regardless of their Type. The Relationships tab displays a list of other Legal Entities connected with this Legal Entity through the parent-child relations. E.g., in case the Legal Entity has three child Legal Entities, they will be comprised in the Relationships tab's grid.

The Relationships tab is presented below:

The screenshot shows the Relationships tab workspace. At the top, there is a toolbar with buttons for General, Corporate, Attributes, Holdings, Relationships (which is highlighted with a green circle labeled 1), Options, Share Classes, System Entities, Attachments, References, Message Layouts, and Communication Profiles. Below the toolbar is a navigation bar with a Contacts link. The main area is a grid titled 'Relationships' (labeled 2) with columns: Legal Entity From, Type, Legal Entity From Type, Legal Entity To, Legal Entity To Type, Start Date, End Date, Current (% or Amount), Floor (% or Amount), Ceiling (% or Amount), Created On, and Last Modified On. A row in the grid shows 'Indochina Capital' as the Legal Entity From, 'Ownership' as the Type, 'Fund Manager' as the Legal Entity From Type, 'Shinkin Central Bank' as the Legal Entity To, 'Client' as the Legal Entity To Type, '8/7/2020' as the Start Date, '11/18/2021' as the End Date, '25 %' as the Current (% or Amount), '12 %' as the Floor (% or Amount), '56 %' as the Ceiling (% or Amount), '8/7/2020, 9:17 AM' as the Created On date, and '8/7/2020, 9:17 AM' as the Last Modified On date. The grid includes a search bar at the top right and a scroll bar on the right side.

1. **Relationships:** press Relationships tab to open the Holdings workspace
2. **Upper toolbar:** a set of buttons that allow to add, edit, and remove associated Relationships.
3. **Relationships grid:** contains a list of all Legal Entities connected via the parent-child relations.
4. **Options panel:** standard grid instruments set.

NOTE! The Relationships grid comprises only those Legal Entities that are directly connected with this Legal Entity. The next level relationships are not displayed on the grid.

If a Legal Entity is owned by other Legal Entity or Entities outside of its own Hierarchy Structure, the remaining part which is not owned, belongs to its Root Legal Entity. If it is a Root Legal Entity itself, the remaining part belongs to it.

LEGAL ENTITY RELATIONSHIP SCREEN

Legal Entity Relationship screen is a form designed to create and maintain Relationships of the Legal Entity. The screen contains mandatory and optional parameters fields. The **Legal Entity Relationship** screen is reviewed below:

The screenshot shows the Legal Entity Relationship screen. It has several input fields and controls:

- 1. Legal Entity From *: A dropdown menu with 'Crusaders' selected.
- 2. Legal Entity To *: A dropdown menu with 'Picard' selected.
- 3. Type *: A dropdown menu with 'Ownership' selected.
- 4. Start Date: A date input field with '10/10/2021' and a calendar icon.
- 5. End Date: A date input field with '1/11/2022' and a calendar icon.
- 6. Values: A section with a checkbox 'Is Percent Value' checked (labeled 5), a 'Current Percent' input field with '40.0 %' (labeled 6), and 'Floor Percent' and 'Ceiling Percent' input fields (labeled 7).
- 7. Buttons: 'Save', 'Save and Close', and 'Cancel'.

1. **Legal Entity From:** Legal Entity which owns a part of *Legal Entity To*.
2. **Legal Entity To:** Legal Entity partially owned by *Legal Entity From*.
3. **Type:** select a relationship type (*Ownership, Credit, etc.*)
4. **Start Date & End Date:** set the time period of the Relationship validity.
5. **Is Percent Value:** allows to set a percent value instead of an absolute one. It is available for *Ownership Type* only.
6. **Current Amount / Current Percent:** the part of Legal Entity From owned by Legal Entity To. It is available for *Ownership Type* only.
7. **Floor & Ceiling Percent:** set the borders of the percent. It is available for *Ownership Type* only.

EXAMPLE

A company '**Phantoms**' is a child Legal Entity of the company '**Eagles**'. Their hierachal structure is:



In turn, the 40% of '**Phantoms**' is owned by the '**Lefschetz**' company, which is located in a different Legal Entity Structure:

Code	Name *	Type
Lefschetz	Lefschetz	Privat...
General		
Corporate		
Holdings		
Relationships		
Positions		
Share Classes		
+ Add Edit Remove		
Drag a column header here to group by that column		
Search...		
Legal Entity From	Type	Legal Entity From Type
Legal Entity To	Legal Entity To Type	Current (% or Amount)
Lefschetz	Ownership	Private Equity
Phantoms	Commingled Fund	40 %

It means that the remaining 60% of '**Phantoms**' is owned by '**Eagles**'. It is a default Relationship and therefore it is not specified in the system.

INFO! Two arrows sign on the Relationship screen allows to switch the From and To Legal Entities. So, if Legal Entity To is read-only, you can switch it with Legal Entity From, edit it, and switch back.

POSITIONS TAB

Positions tab is available strictly for the Legal Entities of the *Financial Institution Type*. The Positions tab contains a grid that displays all Legal Entity's Positions that fit in the specified date range and associated with Portfolios specified through System Entities. The Position tab is presented below:

Positions										
General		Corporate		Holdings		Relationships		Share Classes		System Entities
From	7/24/2020	To	8/21/2020	Add	Edit	1	2	3	4	5
Drag a column header here to group by that column										
Date	Portfolio	Portfolio Name	CCY	Base CCY (Portfolio)	FX Rate	Last Reported MV On	Last Reported IRR	Unfunded Amount	Created On	Last Modified On
8/7/2020	Fund D	Fund D	GBP	EUR	1.90	8/7/2020	2,651,111.00	596,660.00	8/7/2020	8/7/2020

1. **Positions:** press Positions tab to open the Positions workspace.
2. **From/To date selector:** allows to filter displayed Positions by adjusting the date period.
3. **Upper toolbar:** a set of buttons that allow to *add*, *edit*, and *make copies* of Positions.
4. **Positions grid:** contains a list of all Position created for the Legal Entity which fit in specified date range.
5. **Options panel:** standard grid instruments set.

PORTRFOIO POSITION SCREEN

Portfolio Position screen is a multi-section form that allows users to create and maintain Positions of the Legal Entity. The Portfolio Position screen contains mandatory fields which must be specified to create a Position and a set of optional parameters which can be utilized to provide maximum transparency of the Position's details.

The Portfolio Position screen is presented below:

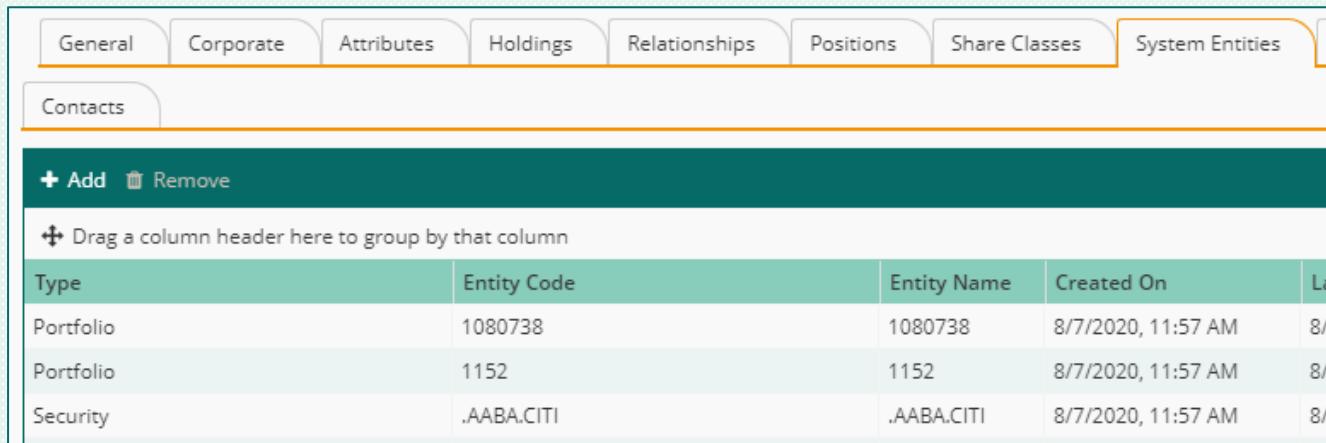
The screenshot shows the 'Portfolio Position as of 8/7/2020' screen. The interface is divided into several sections with numbered callouts:

- Section 1:** Top navigation bar with icons for search, refresh, and close.
- Section 2:** General section with a 'General' tab selected.
- Section 3:** Date field showing '8/7/2020'.
- Section 4:** Fund dropdown showing 'Fund D - Tactical'.
- Section 5:** Local Currency dropdown showing 'GBP'.
- Section 6:** Portfolio dropdown showing 'Fund D'.
- Section 7:** Portfolio Currency dropdown showing 'EUR'.
- Section 8:** FX Rate field showing '1.9'.
- Section 9:** Last Reported IRR field showing '2,651,111'.
- Section 10:** Last Reported MV Date field showing '8/7/2020' with a calendar icon.
- Section 11:** Local Currency section dropdown showing 'Local Currency: GBP'.
- Section 12:** Portfolio Currency section dropdown showing 'Portfolio Currency: EUR'.
- Section 13:** Bottom right corner with operational buttons: 'Save' (orange), 'Save and Close' (orange), and 'Cancel' (green).

1. **Portfolio Position:** press Add or Edit to call the Positions editor pop-up screen.
2. **General section:** contains basic Position parameters.
3. **Date*:** select the date of the Position creation. This field is mandatory.
4. **Fund*:** automatically specified name of the Fund which holds the Positions. This field is read-only.
5. **Local Currency*:** select Fund Currency for the Position.
6. **Portfolio*:** select Position Portfolio from the pool of created System Entities associated with the Legal Entity.
7. **Portfolio Currency*:** automatically specified Portfolio Currency. This field is read-only.
8. **FX Rate:** specify the FX Rate of the Position Currency.
9. **Last Reported IRR:** specify the Position's Internal Rate of Return.
10. **Last Reported MV Date:** specify the Position's Market Value date.
11. **Local Currency section:** contains set of Local Currency related parameters. All parameters are custom.
12. **Portfolio Currency section:** contains set of Portfolio Currency related parameters. All parameters are custom.
13. **Operational buttons:** designed to operate with created Position.

PORTFOLIOS IN POSITION EDITOR

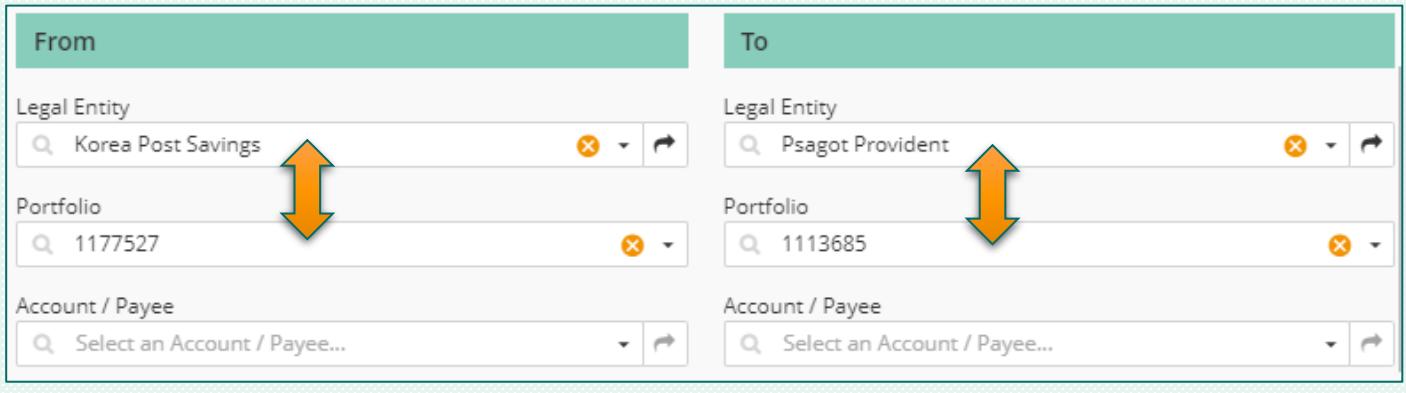
Portfolio is an aggregative entity which unifies Positions under one collection. Positions in possession of the Legal Entity must refer to any Portfolio summoned from the collection of Portfolios which are created in the **Reference Data** module. Portfolios are added to the Legal Entity under specific tab System Entities:



Type	Entity Code	Entity Name	Created On	Last Modified
Portfolio	1080738	1080738	8/7/2020, 11:57 AM	8/7/2020, 11:57 AM
Portfolio	1152	1152	8/7/2020, 11:57 AM	8/7/2020, 11:57 AM
Security	.AABA.CITI	.AABA.CITI	8/7/2020, 11:57 AM	8/7/2020, 11:57 AM

IMPORTANT! The Legal Entity with no specified System Entities cannot be a holder of any Positions because Positions cannot be created without a specified Portfolio. It is essential to provide the preparation of the System Entities associated with the Legal Entity before creating Positions.

INFO! Portfolios included in the Legal Entity through System Entities tab become available for the Payments specification on the Cashflow Editor screen:



From		To	
Legal Entity	Korea Post Savings	Legal Entity	Psagot Provident
Portfolio	1177527	Portfolio	1113685
Account / Payee	Select an Account / Payee...	Account / Payee	Select an Account / Payee...

LOCAL CURRENCY & PORTFOLIO CURRENCY SECTIONS

Legal Entity Position can have assets in Currency that is different from the Currency of the Portfolio it belongs with. Sections **Local Currency & Portfolio Currency** possess a collection of parameters that allow to keep figures in corresponding Currencies if they mismatch. When Portfolio and Position Currencies do match, users can still keep figures in both sections:

Unfunded Amount	Recallable Distribution Amount	Total Contribution Amount	Total Distribution Amount
Commitment Amount	Commitment Reducing Amount	Total Income	
MV	NAV	Cost	Alternate Cost
DPI	TVPI		
Total Capital Call Amount	Total Realized Gain	Total Return of Capital	Total Temp. Return of Capital
Total Management Fees Inside	Total Management Fees Outside	Total Partnership Expenses Inside	Total Partnership Expenses Outside
Other Liabilities	Guarantees		

NOTE! If Portfolio is not selected for Position, the Portfolio Currency is not specified as well (field Portfolio Currency is automatically populated). Consequently, the section Portfolio Currency is unavailable.

SHARE CLASS TAB

Share Classes tab is available strictly for Legal Entities of the *Financial Institution Type*. The Share Classes tab contains all Legal Entity's Share Classes created for the Holdings.

Term: **Share Class** is a special unit designed as a connecting link between Fund and Investor. The Share Class serves as a mediator in the Fund/Investor business relations which are specified with Holdings. The Share Class represents any common business entity or intermedium which is required for the partnership of both parties in frames of a particular Legal Entity.

The Share Classes tab is shown below:

The screenshot shows the Share Classes workspace with the following numbered callouts:

- 1: Share Classes tab (highlighted in green)
- 2: Upper toolbar with Add and Edit buttons (highlighted in green)
- 3: Share Classes grid showing a single row of data (highlighted in green)
- 4: Options panel with various icons (highlighted in green)

Code	Name	Description	Vintage	Assets	Portfolio Code	Portfolio Name
ACC INT 20	ACC INT 20	Common Accounts in the Offshore Bank run by the partner HNTY LTD.	8/13/2020	56,235,000.00	Fund D	Fund D - Tactical Opportunities

1. **Share Classes:** press Share Classes tab to open the Share Classes workspace.
2. **Upper toolbar:** a set of buttons that allow to *add* and *edit* Share Classes.
3. **Share Classes grid:** contains all Share Classes created for this Legal Entity.
4. **Options panel:** standard grid instruments set.

NEW SHARE CLASS SCREEN

New Share Class screen is a pop-up screen where users create and edit Share Classes of the Legal Entity. The New Share Class screen contains mandatory fields and some optional parameters.

The New Share Class screen is presented below:

This screenshot shows the 'New Share Class' screen. The interface has a dark teal header bar with the title 'New Share Class' and three icons on the right. Below the header are eight input fields, each with a circled number from 1 to 8 indicating its function. The fields are arranged in two columns. The left column contains 'Code*' (ACC INT 20) and 'Portfolio' (Fund D). The right column contains 'Name*' (ACC INT 20), 'Vintage' (8/13/2020), 'Assets' (56,235,000.00), and 'Description' (Common Accounts in the Offshore Bank run by the partner HNTY LTD.). At the bottom are three buttons: 'Save' (orange), 'Save and Close' (orange), and 'Cancel' (dark green).

1	Code*	ACC INT 20	Name*	ACC INT 20
2	Portfolio	Fund D	Vintage	8/13/2020
3			Assets	56,235,000.00
4			Description	Common Accounts in the Offshore Bank run by the partner HNTY LTD.
5				
6				
7				
8				

1. **Share Class:** press Add or Edit to call the Share Class editor pop-up screen.
2. **Code*:** short reasonable Code that defines the Share Class entity. The Code does not tolerate special symbols and spaces. This field is mandatory and becomes read-only after Share Class is saved.
3. **Name*:** an explicit Name of the Share Class. The Name field is allowed to contain special symbols and spaces. This field is mandatory.
4. **Portfolio:** specify existing Portfolio from the Reference Data vault in case the Share Class has business connection to the Portfolio. **NOTE!** This field's value will automatically populate Share Class Portfolio field on Holding editor screen.
5. **Vintage:** specify the Vintage date of the Share Class.
6. **Assets:** specify the assets in possession of the Share Class.
7. **Description:** provide a description of the Share Class's business aspects.
8. **Operational buttons:** designed to operate with created Share Class.

SHARE CLASS PORTFOLIO

Share Class can be associated with any of the Portfolios available from the Reference Data pool. The association with Portfolio implies a business connection of any kind between the Share Class and the Portfolio. For example, the Portfolio can be a telic Portfolio in the business operation between Fund and Investor.

The Portfolio of the Share Class automatically populates the **Share Class Portfolio** field when the Share Class is selected on the Investor Holding screen. **NOTE!** The Portfolio cannot be changed if only through the Share Class editor:

This screenshot shows a modal dialog box titled 'Fund'. It contains two input fields: 'Fund*' (Fund D - Tactical) and 'Share Class*' (ACC INT 20). To the right of these fields is a box labeled 'Share Class Portfolio' containing 'Fund D', which is highlighted with an orange border. The entire dialog box has a light blue background.

SYSTEM ENTITIES TAB

System Entities tab is available for all Legal Entities regardless of their Type. The System Entities tab contains all Reference Data components connected to the Legal Entity.

The System Entities tab is presented below:

The screenshot shows the 'System Entities' tab selected in the top navigation bar. The workspace includes:

- Toolbar:** Buttons for '+ Add' and 'Remove' (labeled 2).
- Grid:** A table listing System Entities with columns: Type, Entity Code, Entity Name, Created On, and Last Modified On. The data is as follows:

Type	Entity Code	Entity Name	Created On	Last Modified On
Portfolio	1177523	1177523	8/13/2020, 1:38 PM	8/13/2020, 1:38 PM
Portfolio	1177528	1177528	8/13/2020, 1:38 PM	8/13/2020, 1:38 PM
Bank	Account 1 FundA	Account 1 FundA	8/13/2020, 1:38 PM	8/13/2020, 1:38 PM
Security	FFML 06-FF18 A2D	FFML 06-FF18 A2D	8/13/2020, 1:41 PM	8/13/2020, 1:41 PM

- Options Panel:** Standard grid instruments set (labeled 4).

- System Entities:** press System Entities tab to open the System Entities workspace.
- Upper toolbar:** a set of buttons that allow to *add* and *delete* System Entities.
- System Entities grid:** contains a list of all System Entities created for the Legal Entity.
- Options panel:** standard grid instruments set.

LEGAL ENTITY LINK SCREEN

Legal Entity Link screen is a form where users create links between the Legal Entity and the Reference Data components, so that become attached to the Legal Entity as System Entities. The Legal Entity Link form provides with four available Reference Data component types:

- **Bank**
- **Payee**
- **Portfolio**
- **Security**

The form has the following fields:

- Link Type ***: Portfolio (highlighted with an orange border).
- Entity ***: Default Porftolio
- Is Preferred**: A checked checkbox.

At the bottom are 'Save and Close' and 'Cancel' buttons.

NOTE! "Is Preferred" checkbox is available only for Portfolio links. This checkbox can be enabled for only one Legal Entity Link of Portfolio Type. The preferred Portfolio and the corresponding Account/Payee will be automatically selected in Portfolio and Account / Payee fields for the corresponding Legal Entity on Edit Payment popup. If System Entities grid

contains at least one Legal Entity Link of Portfolio Type, the grid will have “Set as Preferred” context menu action and “Is Preferred” column.

INFO! Selecting one of the types opens access to the Reference Data components of the chosen type. They can be connected to the Legal Entity. Therefore, the Legal Entity becomes embedded in the financial and business components system and refers to the Reference Data units.

IMPORTANT!

Legal Entities of Financial Institution type can be holders of Positions. It is essential that the Legal Entity, which is considered as a Position holder, is associated with Portfolios. Positions cannot be created with no Portfolios attached to the Legal Entity:

The screenshot shows a software interface titled "New Portfolio Position". At the top, there are tabs for "General", "Corporate", "Attributes", "Holdings", "Relationships", "Positions", "Share Classes", "System Entities", and "Attachments". The "General" tab is selected. Below the tabs, there are several input fields: "Date*" with a calendar icon, "Fund" set to "DOC LegalEntity for the Doc", "Local Currency*" with a dropdown set to "EUR", and "Portfolio*" with a search input field containing "Search query" and two results: "1177523" and "1177528".

ATTACHMENTS TAB

Attachments tab is available for all Legal Entities regardless of their Type. The Attachments tab contains all files and notes uploaded for the Legal Entity.

The Attachments tab interface is shown below:

The screenshot shows the "Attachments" workspace. At the top, there is a toolbar with buttons for "General", "Corporate", "Attributes", "Holdings", "Relationships", "Positions", "Share Classes", "System Entities", "Attachments" (which is highlighted), "References", "Message Layouts", and "Communication Profiles". Below the toolbar, there is a "Contacts" section. The main area is a grid with the following columns: "File Name", "File Type", "Note", "Created By", and "Created On". There are four numbered callouts: 1 points to the "Attachments" tab in the toolbar; 2 points to the "Add" and "Remove" buttons in the toolbar; 3 points to the grid header; 4 points to the search bar and other grid navigation buttons.

File Name	File Type	Note	Created By	Created On
Custom Amitim CC_Capital Call_Tranche 1_12_11_2019.pdf	pdf	First run must be diff...	HTFSSupport	8/13/2020, 2:14 PM
142d83b7-f7d3-40c7-ba9c-c475013d3214.docx	docx		HTFSSupport	8/13/2020, 2:14 PM
			HTFSSupport	8/13/2020, 2:15 PM

- Attachments:** press Attachments tab to open the Attachments workspace.
- Upper toolbar:** a set of buttons that allow to *add* and *delete* Attachments.
- Attachments grid:** contains a list of all attachments uploaded for the Legal Entity.
- Options panel:** standard grid instruments set.

REFERENCES TAB

References tab is available for all Legal Entities regardless of their Type. The References tab contains all Reference entities created for the Legal Entity.

Term: **Reference** is a Legal Entity unit that represents any external source applicable to the Legal Entity item. The Reference does not have strong bindings to any financial subject of the Legal Entity and can be utilized at the discretion of the user. In other words, the Reference can stand to any business entity user wants to mention in terms of the Legal Entity item.

The References tab interface is presented below:

Source	Code	Description	Created On	Last Modified On
ACC Holder	NKG52	Third party account for the money lau...	8/13/2020, 2:21 PM	8/13/2020, 2:22 PM
LIFAD Partner	LIFAD Partner	Engine gear supplier for the Ferrari team.	8/13/2020, 2:22 PM	8/13/2020, 2:22 PM

1. **References:** press References tab to open the References workspace.
2. **Upper toolbar:** a set of buttons that allow to *add*, *edit*, and *delete* References.
3. **References grid:** contains a list of all References created for the Legal Entity.
4. **Options panel:** standard grid instruments set.

MESSAGE LAYOUTS TAB

Message Layouts tab is available for all Legal Entities regardless of their Type. The Message Layouts tab contains all Message Templates created for the Legal Entity.

The Message Layouts tab is presented below:

Company	File Name	Message Layou	Entity Type	Entity Code	Entity Name	Created On	Last Modified On
HT Capital Par...	Distribution ...	Fund B - Distr...	Legal Entity	DOC LE	DOC LegalEnti...	8/13/2020	8/13/2020
HT Capital Par...	Energy Fund L...	Fund A - Ener...	Legal Entity	DOC LE	DOC LegalEnti...	8/13/2020	8/13/2020

1. **Message Layouts:** press Message Layouts tab to open the Message Layouts workspace.
2. **Upper toolbar:** a set of buttons that allow to *add*, *view*, and *delete* Message Layouts.
3. **Message Layouts grid:** contains a list of all Message Layouts created for the Legal Entity.
4. **Options panel:** standard grid instruments set.

MESSAGE LAYOUT TAB PERMISSIONS

Message Layouts tab becomes available only for the users with assigned Reference Data Application Features. To activate the Message Layouts tab for a user make sure that the two following Application Features are assigned to its Role:

- **ViewMessageLayout:** ability to view Message Layouts tab on a tab bar.
- **EditMessageLayout:** ability to operate with Message Layouts tab.

INFO! The Message Layouts grid has a limited set of operational buttons that allows users to assign, review and unassign the Message Layouts which were created in the Reference Data module. In case of need of new Message Layouts, the user must proceed to the *Reference Data* module > *Message Layouts* folder > *Message Layouts* screen.

The Reference Data Message Layouts screen allows users to create, import and design the Message Templates that can be subsequently used for the Legal Entities:

Message Layouts								
Hide Inactive <input checked="" type="checkbox"/> + Add Import View Activate Copy Export View in Designer								
Drag a column header here to group by that column								
Template	Template ID	Filename		Output Level	Message Type	Output form	Data Source	Validate Method
MT101	SWIFT MT101	MT101_{CompanyCode}_{VoucherID}_{Tmld}_{Date[yyyyMM...}		Transaction	MT101	Text file	Swift Cash Tra...	Validate101S...
MT103	SWIFT MT103	MT103_{CompanyCode}_{VoucherID}_{Tmld}_{Date[yyyyMM...}		Transaction	MT103	Text file	Swift Cash Tra...	Validate103S...
MT202	SWIFT MT202	MT202_{CompanyCode}_{VoucherID}_{Tmld}_{Date[yyyyMM...}		Transaction	MT202	Text file	Swift Cash Tra...	Validate202S...
MT210	SWIFT MT210	MT210_{CompanyCode}_{VoucherID}_{Tmld}_{Date[yyyyMM...}		Transaction	MT210	Text file	Swift Cash Tra...	Validate210S...
MT540	SWIFT MT540	MT540_{CompanyCode}_{VoucherID}_{Tmld}_{Date[yyyyMM...}		Transaction	MT540	Text file	Swift Security ...	Validate540S...

NEW MESSAGE LAYOUT

The Message Layouts screen of the Reference Data module contains are to be assigned to Legal Entities. The screen **Create New Message Layout Link** opens when the *Add* or *Edit* Upper toolbar button is pressed.

The Create New Message Layout Link screen is reviewed below:

The screenshot shows the 'Create New Message Layout Link' dialog box. The fields are numbered as follows:

- 1**: Title bar 'Create New Message Layout Link'.
- 2**: 'Company*' dropdown containing 'HCapital Partners'.
- 3**: 'Message Template Definition*' dropdown containing 'Fund B - Distribution L...'.
- 4**: 'Entity Type' dropdown containing 'Legal Entity'.
- 5**: 'Entity*' dropdown containing 'DOC LegalEntity for the Doc'.
- 6**: 'File Name' input field containing 'Distoribution Letter'.
- 7**: 'File Extension' input field containing 'pdf' with a question mark icon.
- 8**: 'Extension Output Format' checkbox checked.
- 9**: Buttons at the bottom: 'Save', 'Save and Close', and 'Cancel'.

- Company***: automatically specified field of the Company name.
- Message Template Definition***: select the Message Template from the pool of existing Message Templates.
- Entity Type**: specify the Legal Entity type when linking a Message Template to a Legal Entity. It is filled in automatically when the pop-up screen from the Legal Entity Editor is accessed.
- Entity***: select the name of the Legal Entity. It is filled in automatically when the pop-up screen from the Legal Entity Editor is accessed.
- File Name**: specify the name of the resulting output file (the header of the message).
- File Extension**: extension of the message file. This field is self-determined and is based on the Output Format entry and if the Extension Output Format is checked.

7. **Extension Output Format:** check to auto define the File Extension.
8. **Save/Save and Close:** press to save and leave the screen on top or to save and go back to Legal Entity screen.

The **Create New Message Layout Link** screen is accessible not merely from the Legal Entity Editor. The Message Template can also be linked to the Legal Entity from two more spots:

- *Reference Data module > Message Layouts folder > Layout links screen.*
- *Reference Data module > Message Layouts folder > Message Layouts screen > Edit Message Layout > Links tab.*

IMPORTANT! Since the Legal Entities have a hierarchical structure, the recommended practice is to link the Message Templates to the parent Legal Entities in the first place. When the system cannot find a particular type of Message Template linked to a Legal Entity, it refers to its parent Legal Entity for the Message Templates. This search repeats up to the top-level Legal Entity.

INFO! The Legal Entity or Entities assigned to the Cashflow do not have an impact on the Output Messages generation. Only the Legal Entities of the **Primary Payment** trigger a particular Output Message template to be used for Output Message generation.

COMMUNICATION PROFILES TAB

Communication Profiles tab is available for all Legal Entities regardless of their Type. The *Communication Profiles* tab contains all Communication Profiles created for the Legal Entity.

Term: **Communication Profile** is a Legal Entity unit that represents a configured message profile designed for delivering Output Messages to a group of recipients through a configured method. The Communication Profile includes the connectivity parameters, templates settings and a list of recipients assembled from the Contacts.

The Communication Profiles tab is presented below:

The screenshot shows the Communication Profiles workspace. At the top, there is a horizontal bar with tabs: General, Corporate, Attributes, Holdings, Relationships, Positions, Share Classes, System Entities, Attachments, References, Message Layouts, and Communication Profiles (which is highlighted). Below this is a toolbar with buttons for Hide (2), Add (3), Edit, and Remove. To the right of the toolbar is a search bar and a set of standard grid navigation icons (4). The main area is a grid table (5) displaying Communication Profiles. The columns are: Company, Destination, Name, Template, Entity Type, Entity, Is Active, Created On, and Last Modified On. There are two rows of data:

Company	Destination	Name	Template	Entity Type	Entity	Is Active	Created On	Last Modified On
HT Capital Par...	E-mail	COMM Profile 1	Fund A - Energy Fund	Legal Entity	DOC LegalEnti...	✓	8/13/2020, 2:52 PM	8/13/2020, 2:52 PM
HT Capital Par...	FTP	COMM Profile 2	CapitalCall	Legal Entity	DOC LegalEnti...	✓	8/13/2020, 3:24 PM	8/13/2020, 3:24 PM

1. **Communication Profiles:** press Communication Profiles tab to open the Communication Profiles workspace.
2. **Hide Inactive:** checkmark that conceals deactivated Communication Profiles from the grid.
3. **Upper toolbar buttons:** a set of buttons that allow to *add*, *edit*, and *delete* Communication Profiles.
4. **Communication Profiles grid:** contains a list of all Communication Profiles created for the Legal Entity.
5. **Options panel:** standard grid instruments set.

COMMUNICATION PROFILE TAB PERMISSIONS

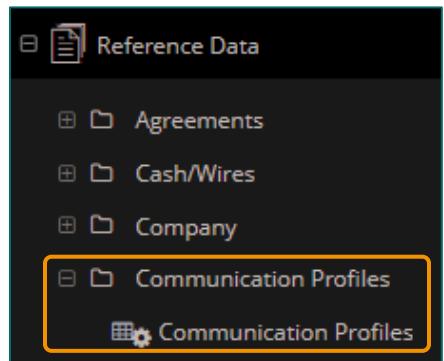
Communication Profiles tab becomes available only for users with assigned Reference Data Application Features. To activate Communication Profiles tab for a user make sure that the two following Application Features are assigned to its Role:

- **ViewCommunicationProfile:** ability to view Communication Profiles tab on a tab bar.
- **EditCommunicationProfile:** ability to operate with Communication Profiles tab.

REFERENCE DATA COMMUNICATION PROFILES SCREEN

Communication Profiles created for Legal Entities in Legal Entity Editor populate the Communication Profiles grid located under Reference Data module. The Reference Data Communication Profiles screen aggregates all Communication Profile entities across Hazeltree application and allows to create and manage Communication Profiles outside the Legal Entity Editor. The Reference Data Communication Profiles screen carries the exact same functionality as the Communication Profiles tab in Legal Entity Editor.

NOTE! All existing Communication Profile entities can be reviewed only under the *Reference Data Communication Profiles* screen. The Communication Profiles tab inside the Legal Entity Editor is empty by default.



INFO! The Reference Data Communication Profiles screen and the Legal Entity Editor Communication Profiles tab provide with identical functionality and instruments set. The difference between both screens is that the *Reference Data Communication Profiles* screen aggregates all *Communication Profile* entities across the Hazeltree application and the *Legal Entity Editor Communication Profiles* tab displays only those Communication Profiles, that were created for an active Legal Entity.

The Reference Data Communication Profiles screen is presented below:

The screenshot shows a 'Communication Profiles' screen with a toolbar at the top containing 'Hide Inactive' (with a checked checkbox), '+ Add', 'Edit', and 'Remove' buttons. A large green circle with the number '1' is positioned above the toolbar. Below the toolbar is a header row with columns: Company, Destination, Name, Template, Entity Type, Entity, and Is Active. A green circle with the number '2' is positioned over the second row of the grid. The grid lists five communication profiles:

Company	Destination	Name	Template	Entity Type	Entity	Is Active
HT Capital Par...	FTP	Fund B - Healt...	Fund B - Capit...	Legal Entity	Fund B - Healthcare	✓
HT Capital Par...	E-mail	Fund A - Ener...	Fund A - Ener...	Legal Entity	Fund A - Energy	✓
HT Capital Par...	E-mail	Investors Gen...		Legal Entity	Investors	✓
HT Capital Par...	E-mail	test1		Legal Entity	Fund E - SMA	✓
HT Capital Par...	E-mail	test2	Fund C - Distri...	Legal Entity	Fund E - SMA	✓

1. **Upper toolbar:** set of operational buttons identical to the Communication Profiles tab Upper toolbar (allows to *add*, *edit*, and *delete* the Communication Profiles).
2. **Communication Profiles grid:** list of all existing Communication Profiles.

COMMUNICATION PROFILE CONTACTS

Communication Profile aggregates Contacts existing in frames of the Legal Entity. The Contacts can be given different recipient roles: To/Cc/Bcc. Contacts are added from the Contacts created for the Legal Entity. Contacts are created on the tab Contacts:

The screenshot shows a 'Communication Profile Contacts' screen. At the top, there are four tabs: 'References', 'Message Layouts', 'Communication Profiles' (which is highlighted with a yellow border), and 'Contacts'. Below the tabs is a toolbar with '+ Add', 'Edit', and 'Remove' buttons. A green circle with the number '1' is positioned above the toolbar. A large green circle with the number '2' is positioned over the second row of the grid. The grid lists two contacts:

Contact Link Type	Type	User Name	First Name
Primary	Investor		Fred
Recipient	Company	mzack	Mike

COMMUNICATION PROFILE CONTACTS (CONTINUATION)

IMPORTANT! Communication Profile still can be created even if the Legal Entity has no Contacts. However, such Communication Profile is useless in terms of reports delivery. It is essential to provide preparation of Contacts before utilizing Communication Profiles.

INFO! The Communication Profiles determine what Message Output template is used in case of delivery to certain recipients designated as the Contacts. In order to establish a correct delivery order and template usage, users must configure the Communication Profiles and specify all necessary settings. To do this, one must refer to the **Communication Profiles Editor**.

COMMUNICATION PROFILE EDITOR

Communication Profile Editor screen is a form that allows users to create and edit Communication Profiles. Press **Add** or **Edit** Upper toolbar buttons to access Communication Profile Editor.

Communication Profile Editor is reviewed below:

The screenshot shows the 'Edit Communication Profile' dialog box with various fields and buttons labeled with numbers 1 through 16:

- 1:** Title bar 'Edit Communication Profile'.
- 2:** 'Code*' field containing 'COMM1'.
- 3:** 'Name*' field containing 'COMM Profile 1'.
- 4:** 'Company*' field containing 'HT Capital Partners'.
- 5:** 'Destination Type*' dropdown set to 'E-mail'.
- 6:** 'Template' dropdown set to 'Fund A - Energy Fund'.
- 7:** 'Entity Type' dropdown set to 'Legal Entity'.
- 8:** 'Entity*' dropdown set to 'DOC LegalEntity for the Doc'.
- 9:** 'Concatenate Attachments' checkbox checked.
- 10:** 'E-mail' button.
- 11:** 'From' field containing 'Only default sender is allowed'.
- 12:** 'Generic' button.
- 13:** 'Template Specific' button.
- 14:** 'Recipients' section title.
- 15:** Data grid showing recipient details:

Contact Link Ty...	Contact Type	Email	First Name	Last Name	To	Cc	Bcc
Primary	Investor	fredhootie@cl...	Fred	Hootie	✓	□	□
Recipient	Company	mzack@hazel...	Mike	Zack	✓	□	□
- 16:** Bottom buttons: 'Save' (orange), 'Save and Close' (orange), and 'Cancel' (green).

1. **Edit Communication Profile:** press *Add* or *Edit* buttons to activate the Edit Communication Profile pop-up screen.
2. **Code***: short reasonable code of the Communication Profile. Code does not tolerate special symbols and spaces. This field is mandatory and becomes read-only after Communication Profile is saved.
3. **Name***: explicit Name of the Communication Profile. Name field is allowed to contain special symbols and spaces. This field is mandatory.
4. **Company***: automatically specified field with the Company name. This field is read-only.
5. **Destination Type***: select the method of reports delivery to contacts of the Communication Profile.
6. **Template**: select Message Output Template for the Communication Profile.
7. **Entity Type***: automatically specified field with the type of Communication Profile entity.
8. **Entity***: automatically specified field of the actual Legal Entity Communication Profile is created for.
9. **Concatenate Attachments**: a marker that determines whether the attachments of all enclosed Payments must be concatenated.
10. **Email section**: specification of the Destination Type selected earlier. The options displayed under the tab, as the tab's name, depends on the selected Destination type.
11. **From**: specify the default sender of the report.
12. **Generic section**: basic settings of the E-mail type of delivery.
13. **Template specific**: template specific settings of the E-mail type pf delivery.
14. **Recipients**: the section where the recipients list is formed.
15. **Contacts grid**: add Contacts to the Communication Profile and specify their recipient roles (To/Cc/Bcc).
16. **Operational buttons**: designed to operate with created Communication Profile.

COMMUNICATION PROFILE'S DESTINATION TYPE

Destination Type dropdown determines the method of the Output Message delivery. There are three available options to deliver the reports:

- **E-mail**: send as e-mails.
- **E-mail for Reports**: set this Destination Type to use the specified e-mail in the *Report Manager*.
- **FTP**: deliver reports to the recipient's FTP server.
- **Network**: deliver reports to the remote directory.
- **System E-mail**: set this Destination Type to set only the corresponding variable in Default Subject field and take all other information from the Feed Server integrated with Transmissions of Transaction Manager module.

Every option implies an individual configuration approach. For example, the FTP option requires FTP remote directory, Host, Port, Username and Password specification: 

Content	
FTP Remote Directory*	109.124.90.0
Host*	terra.nova
Username*	adminGR
Port	8084
Password	*****
<input checked="" type="checkbox"/> Save Original File <input checked="" type="checkbox"/> Use SFTP <input type="checkbox"/> Use Encryption	
<input type="checkbox"/> Use SSH Key	
Archive Settings	
Archive Directory*	Archive Directory

IMPORTANT! The Message Output Templates are connected with Communication Profiles through the Template value selected on the Edit Communication Profile screen. When Message Output of a certain Template is generated it is sent to the Contacts aggregated under the Communication Profile with corresponding Message Output Template.

CONTACTS TAB

Contacts tab is available for all Legal Entities regardless of their Type. The Contacts tab contains all Contacts assigned to the Legal Entity.

The Contacts tab is presented below:

The screenshot shows the Contacts tab workspace. At the top, there are four tabs: References, Message Layouts, Communication Profiles, and Contacts (which is highlighted). Below the tabs is a toolbar with buttons for Add, Edit, Remove, and other grid controls. A search bar is also present. The main area is a grid table with columns: Contact Link Type, Type, User Name, First Name, Last Name, and Email. Two rows of data are visible: one for Fred Hootie (Primary, Investor, FredH, Fred, Hootie, fredhootie@clientfordoc.com) and one for Mike Zack (Recipient, Company, mzack, Mike, Zack, mzack@hazeltree.com). Numbered callouts point to specific elements: 1 points to the Contacts tab tab, 2 points to the toolbar, 3 points to the grid table, and 4 points to the search bar.

Contact Link Type	Type	User Name	First Name	Last Name	Email
Primary	Investor	FredH	Fred	Hootie	fredhootie@clientfordoc.com
Recipient	Company	mzack	Mike	Zack	mzack@hazeltree.com

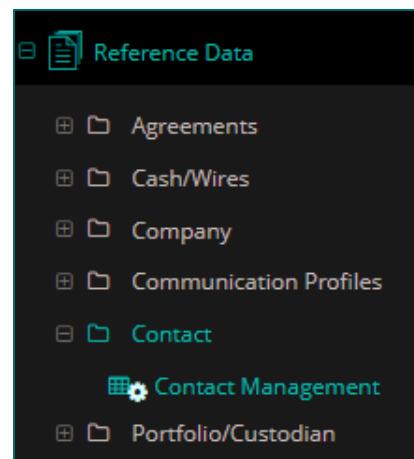
1. **Contacts:** press Contacts tab to open the Contacts workspace.
2. **Upper toolbar:** a set of buttons that allow to *add*, *edit*, and *delete* Contacts.
3. **Contacts grid:** contains a list of all Contacts created for the Legal Entity.
4. **Options panel:** standard grid instruments set.

REFERENCE DATA CONTACT MANAGEMENT SCREEN

Contacts Management screen is located in the Reference Data module. The screen is a Contacts provider for the Legal Entity Editor's Contacts tab. The Reference Data Contacts Management screen allows to create and manage Contacts entities which can be later used to populate Legal Entity's Contacts pool.

IMPORTANT! The Legal Entity Contacts are not created from scratch but selected from the *Contacts Management* screen of the *Reference Data* module. Therefore, the process of adding a Contact to the Legal Entity must follow the next routine:

2. **Create Contact in Contact Management screen** (*Reference Data* module > *Contact* folder > *Contact Management*).
3. **Proceed** to the Legal Entity Editor, go to Contacts tab and press Add.
4. **Select** created Contact from the dropdown on Add Contact Link pop-up screen.



The Contacts contain personal information about the individual, including the e-mail address, home address, telephone, signature. The Contact can be associated with a Hazeltree user or can be created as a third-party entity. The Contact form implies the specification of the Contact type (it is mandatory). There are four default types of Contacts:

- Client
- Company
- Investor
- Manager

The form of the Contact creation is shown below:

Contact details

User <input type="text" value="Michael"/>	Contact Type* <input type="text" value="Investor"/>	
Email <input type="text" value="mj@chicagobulls.com"/>		
First Name <input type="text" value="Michael"/>	Middle Name <input type="text"/>	Last Name <input type="text" value="Jordan"/>
Title <input type="text" value="MVP"/>	Salutation <input type="text" value="Mr."/>	
Phone 1 <input type="text" value="+1-543-5246426"/>	Phone 2 <input type="text"/>	Prefix <input type="text"/>
Address 1 <input type="text"/>		
Address 2 <input type="text"/>		
Signature 1387c8720c34.jpg <input type="button" value="Download"/> <input type="button" value="Upload"/> <input type="button" value="Delete"/>		
<input type="button" value="Save"/> <input type="button" value="Save and Close"/> <input type="button" value="Cancel"/>		

INFO! The Contacts can be complimented with the real signature. Hence users are able to put their signatures in templates markup.

LEGAL ENTITY STRUCTURE

Legal Entity Structure is a Private Market screen that displays the Legal Entities' hierarchy tree. The screen also provides with access to full version of the Legal Entity Editor, that is embedded in the working area of the screen.

INFO! The Legal Entities represent structural components of external businesses. Legal Entities interplay with one another and can also represent hierarchical parts of the business structure. In order to provide transparency for the Legal Entities, the Private Markets module comprises a special screen Legal Entity Structure.

All Legal Entities have a parameter **Parent Legal Entity**. The Legal Entities with non-specified parameter automatically become the high-level Legal Entity: they are put on top of the hierarchy tree. The Legal Entities with specified parent parameter become child Legal Entities. The level of enclosure are not limited.

The Legal Entity Structure screen interface is presented below:

The screenshot shows the Legal Entity Structure screen. At the top left is the title "Legal Entity Structure". To its right are two buttons: "+ Add" (circled 1) and "Remove" (circled 2). Below these is a search bar (circled 3). A sidebar on the left contains a tree view of legal entities under "Hogwarts" (circled 4). A context menu (circled 5) is open over one of the entities in the tree. The main working area on the right is the "Legal Entity Editor" for the entity "Hufflepuff". It includes fields for "Code" (Hufflepuff), "Name" (Hufflepuff), "Type" (Private Equity), and tabs for General, Corporate, Attributes, Holdings, Relationships, Positions, Share Classes, System Entities, and Attachments. Below these tabs are sections for Parent Legal Entity (set to Hogwarts), Currency (EUR), Vintage, Size, Country (GBR - United Kingdom), Region (Europe), Investment Region, Business Unit, Industry, Middle Office Owner, Last Communication Date, Liquidity Model, Created On (11/10/2021, 3:43 PM), Created By (HTFSSupport), Last Modified On (11/24/2021, 9:47 AM), Last Modified By (HTFSSupport), and a large "Description" text area (circled 6).

1. **Add:** press to activate the Legal Entity Editor in the New Legal Entity mode. The Legal Entity Editor is displayed on the right side of the Legal Entity Structure working area.
2. **Remove:** select Legal Entity and press the button to permanently delete it from the system.
3. **Search:** search bar that allows to locate sought-for Legal Entity on the hierarchy tree.
4. **Legal Entity hierarchy tree:** list of all created Legal Entities represented in the form of parent-child tree.
5. **Context menu:** called with a right click and displays actions that can be executed against the selected Legal Entity.
6. **Legal Entity Editor:** the tool is built into the Legal Entity Structure page and represents a full version of the Legal Entity Editor.

Basically, the Legal Entity Structure screen provides with the same set of instruments as the Legal Entities screen, however it displays existing Legal Entities in a form of a multilevel tree. From the business perspective it is necessary to understand the whole structure of created Legal Entities and relations established amongst them.

LEGAL ENTITIES COMPONENTS

The Legal Entities regularly contain different components: System Entities, Relationships, Attachments, References, etc. It is important to stress that the tree structure on the Legal Entity Structure screen displays not merely the Legal Entities themselves but also shows two components if they exist inside the Legal Entity:

- **System Entities**
- **Relationships**

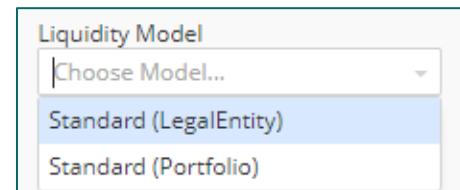
In case when the Legal Entity contains System Entities and/or Relationships, the hierarchy tree on the screen displays them on the below level of the Legal Entity:

The screenshot shows the Legal Entity Structure screen. On the left, there is a tree view of legal entities. The root node is '137516' with the name 'Korea Post Savings' and type 'Client'. Underneath it, there are nodes for '3120058' (type FUND), 'Relationships', 'System Entities', and several other client nodes like '138122', '143356', '143357', '150817', and '157926'. On the right, there is a detailed view of the 'Korea Post Savings' entity. It shows fields for Code (137516), Name (Korea Post Savings), Type (Client), and various tabs for General, Corporate, Attributes, Holdings, Relationships, Positions, and Share Classes. Below these tabs is a table with columns: Legal Entity From, Type, Legal Entity From Type, Legal Entity To, Legal Entity To Type, Current (% or Amount), and Created On. One row in the table shows 'Korea Post Savings' as the source and 'Sumitomo Life Insurance Company' as the target.

LIQUIDITY MODEL

Liquidity Model is an option available in the Legal Entity Editor. It allows to select a Model used in Liquidity Board assets and liabilities calculation. Currently, there are two Liquidity Models available:

- **Standard (Legal Entity)**: calculates Assets, Liabilities, and Coverage on the Legal Entity level.
- **Standard (Portfolio)**: calculates Assets, Liabilities, and Coverage on Portfolio level.



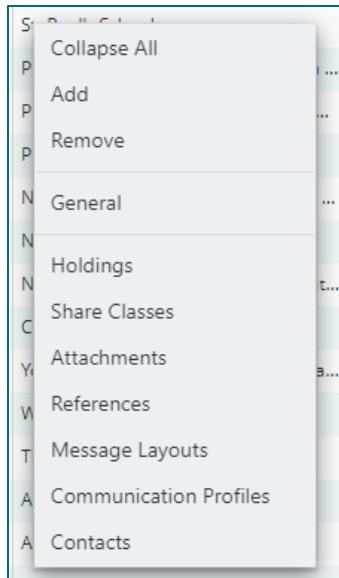
A Liquidity Model calculates the values of the following columns:

- Assets - Bank (Portfolio_AssetsBroker)
- Assets - Internal (Portfolio_AssetsInternal)
- Coverage - Bank (Portfolio_CoverageBroker)
- Coverage - Internal (Portfolio_CoverageInternal)
- Liabilities - Bank (Portfolio_LiabilitiesBroker)
- Liabilities - Internal (Portfolio_LiabilitiesInternal)

The Liquidity Models can be customized with the client-specific data as well.

CONTEXT MENU

Legal Entity Structure context menu displays the options that can be executed against selected Legal Entity or all of the legal Entities on the screen:



- **Collapse All:** minimize all Legal Entities so the structure tree displays only upper level Legal Entities.
- **Add:** press to open the Legal Entity Editor is a form of a New Legal Entity screen.
- **Remove:** press to delete selected Legal Entity.
- **General:** press to open General tab workspace on the right working area.
- **Holdings:** press to open Holdings tab workspace on the right working area.
- **Share Class:** press to open Share Class tab workspace on the right working area.
- **Attachments:** press to open Attachments tab workspace on the right working area.
- **References:** press to open References tab workspace on the right working area.
- **Message Layouts:** press to open Message Layouts tab workspace on the right working area.
- **Communication profiles:** press to open Communication profiles tab workspace on the right working area.
- **Contacts:** press to open Contacts tab workspace on the right working area.

CAPITAL ACTIVITIES

Capital Activities displays the Vouchers existing in the system for a designated time period. Basically, the Capital Activities screen is a copy of the screen Transactions (module *Transaction Manager*). It is embedded in the Private Markets module for users' convenience.

INFO! Since the Cashflows are intended to eventually yield Vouchers/Transactions, it is crucial to have a management grid that allows users to control, review and manage the resultant Vouchers and Transactions and monitor the ratio of different types of Transactions.

The Capital Activities screen interface is presented below:

The screenshot shows a grid-based interface for managing capital activities. At the top, there's a toolbar with search, date selection, and operational buttons. Below the toolbar is an options panel with standard grid instruments. The main area is a capital activities grid displaying various transactions with their details like amount, currency, and status. A context menu is open over the first transaction in the grid, listing actions such as Copy, View, View Attachments, View Audit, View Outputs, Reject, Reject for Edit, Override Status, Expand All, and Collapse All. Callouts numbered 1 through 4 point to these elements: 1 points to the toolbar, 2 points to the options panel, 3 points to the context menu, and 4 points to the 'Copy' option in the menu.

Capital Activities											Search by Settlement Date	From Date 9/5/2021	To Date 10/6/2021	Reject for Edit	Print	Export	Import	Search...
		Company Code	From	To	Amount	CCY	Portfolio CCY	Settlement Date	Voucher Date	Status	Task Status							
▶	7423	A	Account 1 Fu...	Account 1 Fu...	1,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▼	7425		Copy	Credit Facility...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▼	7426		View	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	+	Sent							
▼	7428		View Attachments	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	Processed	Processed							
▶	7429		View Audit	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	✓	Processed							
▶	7430		View Outputs	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7432		Reject	Account 1 Fu...	55.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7434		Reject for Edit	Account 1 Fu...	123.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7436		Override Status	Fund with Att...	754.00	USD	USD	9/15/2021	9/15/2021	Submitted	Wait for appr...							
▶	7438		Expand All	Fund with Att...	754.00	USD	USD	9/15/2021	9/15/2021	✗	Wait for appr...							
▶	7440		Collapse All	Account 1 Fu...	1,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7442			Account 2 Fu...	666.00	USD	EUR	9/16/2021	9/16/2021	Submitted	Wait for appr...							

1. **Upper toolbar:** the ribbon with date selector and operational buttons.

2. **Options panel:** standard grid instruments set.

3. **Capital Activities grid:** displays existing Vouchers and their parameters for the designated date period.

4. **Context menu:** displays actions that can be executed against selected Voucher/Transaction.

CONTEXT MENU

Context menu is a set of options called by right click on a Transaction entity on the Capital Activities management grid:

The screenshot shows a context menu open over the first transaction in the grid. The menu includes options like Copy, View, View Attachments, View Audit, View Outputs, Reject, Reject for Edit, Override Status, Expand All, and Collapse All. The 'Copy' option is highlighted with a dashed blue border.

Capital Activities											Search by Settlement Date	From Date 9/5/2021	To Date 10/6/2021	Reject for Edit	Print	Export	Import	Search...
		Company Code	From	To	Amount	CCY	Portfolio CCY	Settlement Date	Voucher Date	Status	Task Status							
▶	7423	A	Account 1 Fu...	Account 1 Fu...	1,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▼	7425		Copy	Credit Facility...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▼	7426		View	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	+	Sent							
▼	7428		View Attachments	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	Processed	Processed							
▶	7430		View Audit	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	✓	Processed							
▶	7432		View Outputs	Credit Facility ...	2,300,000.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7434		Reject	Account 1 Fu...	55.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7436		Reject for Edit	Account 1 Fu...	123.00	USD	EUR	9/15/2021	9/15/2021	Sent	Sent							
▶	7438		Override Status	Fund with Att...	754.00	USD	USD	9/15/2021	9/15/2021	✗	Wait for appr...							
▶	7440		Expand All	Fund with Att...	754.00	USD	USD	9/15/2021	9/15/2021	✗	Wait for appr...							
▶	7442		Collapse All	Account 1 Fu...	1,000.00	USD	EUR	9/16/2021	9/16/2021	Submitted	Wait for appr...							

- **Copy:** select a Voucher/Transaction on the grid and press to create a copy of it.
- **View:** select a Voucher/Transaction on the grid and press to review it.
- **View Attachments:** select a Voucher/Transaction on the grid and press to review its attachments. Voucher Details Attachments tab is automatically opened.
- **View Audit:** select a Voucher/Transaction on the grid and press to review its activities. Voucher Details Audit tab is automatically opened.
- **View Outputs:** select a Voucher/Transaction on the grid and press to review its Output Messages. Voucher Details Outputs tab is automatically opened.
- **Reject:** select a Voucher/Transaction on the grid and press to reject it.
- **Reject for Edit:** select a Voucher/Transaction on the grid and press to create a reject it with a further possibility to edit it and submit again.
- **Override Status:** select a Voucher/Transaction on the grid and press to change its status.

- **Expand All:** press to expand the Voucher to see the TMs (Transactions).
- **Collapse All:** press to minimize the expanded Voucher.

NOTE! The context menu called against the Voucher has merely two options: Expand All and Collapse All.

UPPER TOOLBAR

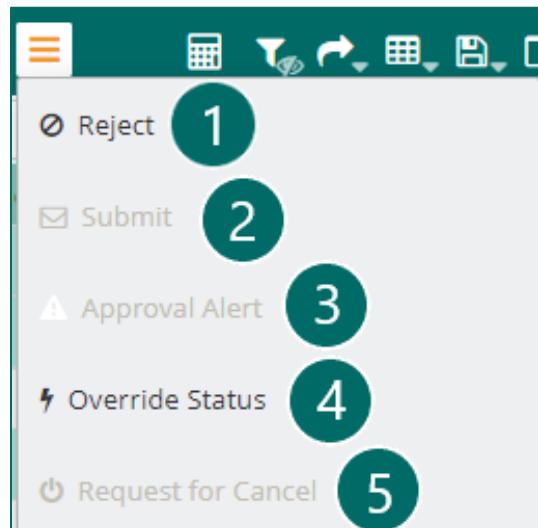
Capital Activities Upper toolbar contains a date range selector and operational buttons for Vouchers and Transactions management and maintenance.

The Capital Activities Upper toolbar is presented below:



1. **Search By:** dropdown that allows to switch the Voucher search date parameter.
2. **From/To Date:** date selector that allows to filter displayed Voucher by adjusting the date period.
3. **Reject for Edit:** highlight the Voucher on the grid and press to create a reject it with a further possibility to edit it and submit again.
4. **Add:** press to create new Voucher or Transaction.
5. **Edit:** highlight the Voucher on the grid and press to edit it in the Voucher Details popup screen.
6. **Copy:** highlight the Voucher on the grid and press to create a copy of it.
7. **View:** highlight the Voucher on the grid and press to review the Voucher in the Voucher Details popup screen.
8. **Approve:** highlight the Voucher in processing status and press to approve the sending. **NOTE!** User must have an appropriate permission to execute this action.
9. **Release:** highlight the Voucher in processing status and press to release it. A voucher releasing is similar to Approval with the only difference that a Voucher can be released even if a releaser took an action on the Voucher before (e.g., approved it). **NOTE!** User must have an appropriate permission to execute this action.

The menu button \equiv on the right contains the following remaining options:



1. **Reject:** highlight the Voucher in processing status and press to disapprove the sending. **NOTE!** User must have an appropriate permission to execute this action.
2. **Submit:** highlight the Voucher in processing status and press to submit for its sending. **NOTE!** User must have an appropriate permission to execute this action.

3. **Approval Alert:** highlight the Voucher in processing status and press to notify the users with corresponding permissions for approval once the Voucher gets the Task status *Wait for approval*.
4. **Override Status:** highlight the Voucher on the grid and press to change its status. **NOTE!** Processed Vouchers' status cannot be changed.
5. **Request for Cancel:** highlight the Voucher on the grid and press to submit a request for the Voucher's cancelation.

LIQUIDITY BOARD

Liquidity Board screen consolidates holdings, legal entity positions and cash positions for all Legal Entities under current company. The screen allows to review all liquidity sources and their relations in one place. It also provides an ability to perform treasury operations via the Cashflows.

Term: **Legal Entity Position** is a relation between a Legal Entity and a Portfolio. Position can be created only for Portfolios that belong to current Legal Entity. This can be set up on Legal Entity → System Entities tab.

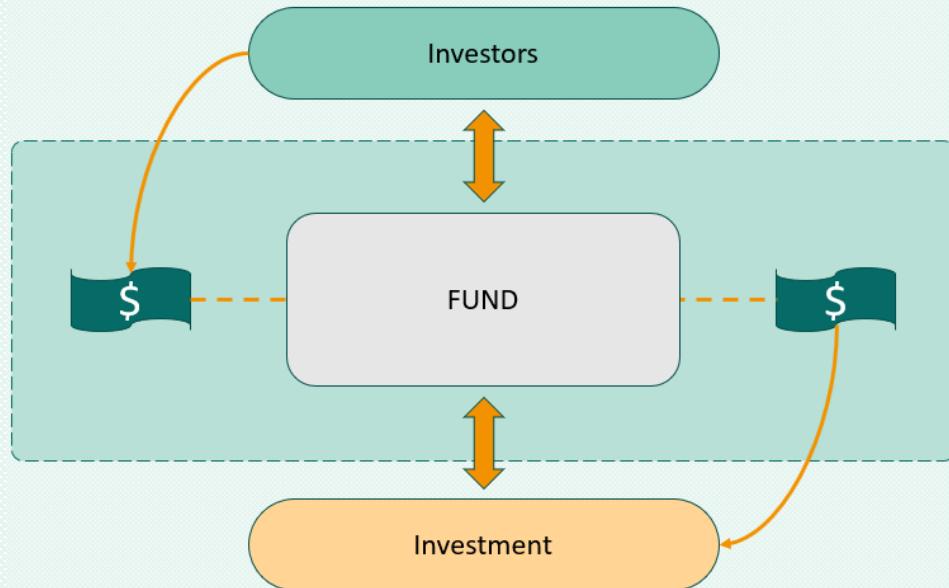
Term: **Legal Entity Holding** is a relation between two Legal Entities: Fund and Investor. It is mandatory to establish the Fund and Investor relations through the Share Class entity. The Portfolio of the investment can be connected to the Holding via the Share Class.

INFO! Depending on the Liquidity type, the same columns on Liquidity Board can represent data for Positions and Holdings. For example, column Commitment Amount can be used to display Holding's Commitment Amount and Position's Commitment Amount. Reusing columns to display data for different types of entities is done to make Liquidity Board grid more compact and convenient.

LIQUIDITY BOARD PURPOSE

The financial relationships between two Legal Entities of an investment operation require a convenient tool that can help support the transparency and effectivity of the issue. The Liquidity Board screen is a unique instrument that provides all necessary toolset in combination with other tools of the Private Market module.

The regulation of investment operation between Legal Entities is performed in accordance with the standard schema of the investment relation:



Hence, the goal of the Liquidity Board is to display the ratio of the commitment and funded money, show the positions of investment (both cash and security) and allow users to start Cashflow operation directly from the board.

Liquidity Board screen represents a standard management screen equipped with management grid with operational instruments and allows to create Cashflows right from the Liquidity entries.

Liquidity Board is reviewed below:

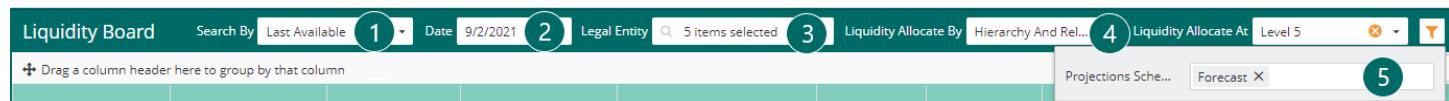
The screenshot shows the Liquidity Board interface. At the top, there's a toolbar with buttons for 'Search By' (dropdown), 'Last Available', 'Date' (set to 9/2/2021), 'Legal Entity' (dropdown), 'Liquidity Allocate' (button with a dropdown arrow), and a search bar. A green circle labeled '1' is over the 'Liquidity Allocate' button. Below the toolbar is a grid with columns: Company, Liquidity Type, Legal Entity, Legal Entity Middle Office Owner, Investment, and Investment CCY. A row in the grid has a yellow background and contains the text 'PAPI Test 1 PAPI'. A green circle labeled '2' is over this row. A context menu is open over this row, listing various actions like 'Create Cashflow', 'Create Capital Call', etc. A green circle labeled '3' is over the menu. The grid also includes a header note: 'Drag a column header here to group by that column'.

Company	Liquidity Type	Legal Entity	Legal Entity Middle Office Owner	Investment	Investment CCY
HTCP	Create Cashflow	Create Capital Call	PAPI Test 1 PAPI		
HTCP	Position	Create Capital Distribution	PAPI Test 1 PAPI		
HTCP	Holding	Create Deal		Fund A - Energy	USD
HTCP	Holding	Create Debt Cashflow		Fund A - Energy	USD
HTCP	Holding	Create Debt Management		Fund B - Healthcare	USD
HTCP	Holding	Create Generic		Fund C - Real Estate Fund	USD
HTCP	Holding	Create Property Cashflow		Fund C - Real Estate Fund	USD
HTCP	Holding	Create Stock Distribution		Fund A - Energy	USD

- Liquidity Board Upper toolbar:** the ribbon with basic filters and operational buttons.
- Liquidity Board grid:** displays liquidity entries and their parameters.
- Context menu:** called with a right click and displays actions that can be executed against the selected liquidity entry.

UPPER TOOLBAR

Liquidity Board Upper toolbar contains a set of input parameters that allow to easily filter the grid contents. The Upper toolbar is shown below:



- Search By:** dropdown that allows to switch the Cashflow search date parameter.
- Date:** date selector that allows to display the liquidity entries for a certain day. **NOTE!** Depending on the value selected in Search By field, the Liquidity Board grid may not always show data only for the day set in Date field. For example, if Search By value is Last Available, the specified Date will be used for Cash positions only.
- Legal Entity:** filter that allows to display the liquidity entries for the selected Legal Entities.
- Liquidity Allocate By/At:** filters that allow to aggregate liquidity according to the Hierarchy Level of the selected Legal Entities. See the detailed description below.
- Projections Schema:** select the projection schema to filter out the liquidity entries.

Below is an example of Liquidity Board usage.

EXAMPLE

A ‘**Joestar**’ company would like to invest in a firm which, according to the projections, is going to become more profitable: from a \$1mln investment, \$2.5mln can be earned in the next 5 years.

First, this company’s representative Jonathan opens Liquidity Board to view all their funded and unfunded amounts.

On the Liquidity Board, Jonathan sees all Legal Entities available for ‘**Joestar**’ company and decides to use money from their Investors. Therefore, the representative filters the information by Investors:

Liquidity Board		Search By	Last Available	Date	9/2/2021	Legal Entity	Investors	Liquidity Allocate By	Hierarchy
Drag a column header here to group by that column									
Company	Liquidity Type	Legal Entity	Investment	▲	Investment CCY	Commitment Amount Local	Unfunded Amount Local		
HTCP	Loan	Investors							
HTCP	Loan	Investors							
HTCP	Holding	Investors	Fund A - Energy Fund	USD					
HTCP	Holding	Investors	Fund A - Energy Fund	USD	150,000,000.00	50,000,000.00			
HTCP	Holding	Investors	Fund B - Healthcare Fund	USD	250,000,000.00	100,000,000.00			
HTCP	Holding	Investors	Fund C - Real Estate Fund	USD	300,000,000.00	150,000,000.00			

Then, all the Investors are reviewed thoroughly, with their Commitment and Unfunded amounts checked. However, this is a multi-level structure – the representative sees that Joestar Investment Fund has 8 children Legal Entities in all sub-levels.

What is the best way to view the total Unfunded amount of a Legal Entity and all its children Legal Entities?

The first way is to add **Root Legal Entity** column to the grid and filter all children entities by it. However, this method is only applicable for one parent Legal Entity, and even in this case, the Commitment amount is not summed up. Therefore, the best solution in this case is to use the filters **Liquidity Allocate By** and **Liquidity Allocate At**.

LIQUIDITY ALLOCATION

Liquidity Allocation is a mechanism that allows to show liquidity aggregated from different Legal Entity Structure Levels. It is implemented as a pair of filters: **Liquidity Allocate By** and **Liquidity Allocate At**.

LIQUIDITY ALLOCATE BY

The filter **Liquidity Allocate By** has three options:

- **None** option allows to view the Liquidity Board grid positions without Legal Entities aggregation by Levels.
- **Hierarchy Only** option allows client to aggregate liquidity from all children Legal Entities and show it according to the specified Level.
- **Hierarchy and Relationships** option allows to aggregate the data in accordance with the Legal Entities’ Relationships. The filtering considers only Relationships with type **Ownership** and checkbox **Is Percent Value** enabled. If the Relationships are not specified, the Hierarchy (i.e., Legal Entity Structure) is used.

Below is the full list of columns that are re-calculated according to the specified Ownership:

- *Balance - Internal*
- *Balance - Internal (Base CCY)*

- *Intra Day Balance*
- *IntraDayBalanceBase*
- *Excess/Deficit*
- *Balance - Broker*
- *Balance - Broker (Base CCY)*
- *Internal Pending Balance*
- *Free Cash*
- *Unfunded Amount Local*
- *Recallable Distribution Amount Local*
- *Total Contribution Amount Local*
- *Total Distribution Amount Local*
- *Commitment Amount Local*
- *Commitment Reducing Amount Local*
- *Total Income Local*
- *MV Local*
- *NAV Local*
- *Total Capital Call Amount Local*
- *Total Realized Gain Local*
- *Total Return of Capital Local*
- *Total Temp. Return of Capital Local*
- *Total Management Fees Inside Local*
- *Total Management Fees Outside Local*
- *Total Partnership Expenses Inside Local*
- *Total Partnership Expenses Outside Local*

To see the abovementioned values re-calculated in accordance with the Ownership on the Liquidity Board, select **Liquidity Allocate By → Hierarchy and Relationships**. If **Liquidity Allocate By → Hierarchy Only** is selected, the grid will not consider the Ownership.

LIQUIDITY ALLOCATE AT

The filter **Liquidity Allocate At** allows client to set the **Level** which defines how far down the depth of Legal Entity Tree Structure the system should traverse to aggregate/allocate liquidity. To visualize such allocation effect, Liquidity Board removes all lower-level entities and allocates liquidity to the last Level specified in the **Level** Parameter.

NOTE! Level is always counted starting from the Root Legal Entity. It means that Root Level is the same as Level 1.

See the example of **Liquidity Allocate By** and **Liquidity Allocate At** filters below.

EXAMPLE: ALLOCATION

Legal Entity Structure contains five Legal Entities of three Hierarchy Levels:



40% of 'Phantoms' Legal Entity is owned by 'Lefschez' company:

Code	Name *	Type				
Lefschez	Lefschez	Privat...				
General		Corporate	Holdings	Relationships	Positions	Share Classes
+ Add Edit Remove						
Drag a column header here to group by that column		Search...				
Legal Entity From	Type	Legal Entity From Type	Legal Entity To	Legal Entity To Type	Current (% or Amount)	
Lefschez	Ownership	Private Equity	Phantoms	Commingled Fund	40 %	

Therefore, the remaining 60% of 'Phantoms' is owned by its Root Legal Entity 'Eagles'. It is a default Ownership and is not specified in the system. The following filters are applied to the Liquidity Board screen:

- **Legal Entity:** all 5 mentioned companies selected.
- **Liquidity Allocate By:** None

Liquidity Board		Search By	Last Available	Date	8/31/2021	Liquidity Allocate By	None	Liquidit
Drag a column header here to group by that column								
Liquidity Type		Legal Entity	Balance - Bank		Investment CCY	Commitment Amount Local	Unfunded Amount Local	
Cash		Eagles	5,000.00					
Holding		Phantoms	500.00			100,000.00	200,000.00	
Cash		Infras	0.00					
Holding		Picard				10,000.00	10,000.00	
Holding		Lefschez				15,000.00	15,000.00	

Afterwards, another filters are applied to the Liquidity Board screen:

- **Legal Entity:** all 5 mentioned companies selected
- **Liquidity Allocate By:** Hierarchy and Relationships
- **Liquidity Allocate At:** Level 1

EXAMPLE: ALLOCATION (CONTINUATION)

Liquidity Board displays the following details:

Liquidity Board		Liquidity Allocate By	Hierarchy And Rel...	Liquidity Allocate At	Level 1	
Drag a column header here to group by that column						
Liquidity Type	Legal Entity	Balance - Bank	Investment CCY	Commitment Amount Local	Unfunded Amount Local	
Cash	Eagles	5,300.00				
Holding	Eagles			60,000.00	120,000.00	
Cash	Infras	200.00				
Holding	Infras			40,000.00	80,000.00	
Holding	Infras			10,000.00	10,000.00	
Holding	Infras			15,000.00	15,000.00	

- **Hierarchy:** the names of all Legal Entities below Level 1 are covered with the names of their Parent Legal Entities of the specified Level. Also, Cash balance of all concealed Levels' Legal Entities is added to the upper Level's Legal Entities Cash balance value.
- **Ownership:** the percentage owned by other Legal Entities is shown on those Legal Entities or, if these are concealed, on their Parent Legal Entities of the specified Level.

As can be seen, all values of 'Phantoms' Legal Entity is allocated in accordance with its relationship. As 'Lefschetz' Legal Entity owns 40% of 'Phantoms' but is located on Level 3, these 40% values are shown on its Level 1 Legal Entity 'Infras'. The remaining 60% of 'Phantoms' are shown on its own Level 1 Legal Entity 'Eagles'. As 'Eagles' has its own Cash balance, it is summed up with the one of 'Phantoms'.

The Holdings and Cash positions of 'Picard' and 'Lefschetz' are shown on their Level 1 Legal Entity 'Infras'. If, for example, Level 2 was chosen, 'Picard' would be shown with its own name as it is a Level 2 Legal Entity.

Once **Liquidity Allocate At** is changed to Level 2 and the page is refreshed, the names of all Legal Entities below Level 2 are covered with the names of their Parent Legal Entities of Levels 1 and 2.

See the comparison of non-allocated and allocated Legal Entities in the image below:

No Allocation

Liquidity Board Search By Last Available Date 8/31/2021 Liquidity Allocate By None

Drag a column header here to group by that column

Liquidity Type	Legal Entity	Balance - Bank	Investment CCY	Commitment Amount Local	Unfunded Amount Local
Cash	Eagles	5,000.00			
Holding	Phantoms	500.00		100,000.00	200,000.00
Cash	Infras	0.00			
Holding	Picard			10,000.00	10,000.00
Holding	Lefschetz			15,000.00	15,000.00

Hierarchy And Relationships – Level 2

Liquidity Board Liquidity Allocate By Hierarchy And Rel... Liquidity Allocate At Level 2

Liquidity Type	Legal Entity	Balance - Bank	Investment CCY	Commitment Amount Local	Unfunded Amount Local
Cash	Eagles	5,000.00			
Cash	Phantoms	300.00		60,000.00	120,000.00
Holding	Phantoms			40,000.00	80,000.00
Cash	Infras	200.00			
Holding	Infras			10,000.00	10,000.00
Holding	Picard			15,000.00	15,000.00
Holding	Infras				

PROJECTION SCHEMA INFO

The Projection Schema Upper toolbar filter is a filter transported from the Cashboard screen (Cash Manager module) and plays an identical role on the Liquidity Board screen. It filters out the liquidity entries and shows the projection values of the selected Projection Schema.

Term: **Projection** is an aggregated information about the financial movements scheduled for execution in future. It includes Transactions with future settlement dates and accounts' financial states. The data is collected across the Hazeltree platform on a basis of the Projection Schemas: custom entities built for different projection ranges. They are customized due to the business requirements of the company.

Term: **Projection Schema** is a basic Projection entity that keeps general configuration parameters of what must be included in the Projection. Projection Schemas retain transaction settings, schema configuration and Projection Buckets.

In other words, selecting the Projection Schema in the filter automatically excludes the liquidity entries that do not fit in the Projection Schema's configuration settings. To review the Projection Schema's configuration settings, refer to the Reference Data module (folder *Projections* → *Projection Management*).

To learn more about Projections, refer to the official document: **Projection Management Guide**.

CONTEXT MENU

Context menu contains a list of actions that can be executed against the liquidity entry. Commonly, the menu comprises that Cashflow types. By selecting the type of the Cashflow, the Cashflow Editor automatically sets the type:

The screenshot shows a 'Liquidity Board' grid with columns: Company, Liquidity Type, and Legal Entity. A context menu is open over the first row ('HTCP'). The menu items are: Create Capital Call, Create Capital Distribution, Create Deal, Create Debt Cashflow, Create Debt Management, Create Generic, Create Property Cashflow, and Create Stock Distribution. The 'Create Capital Distribution' option is highlighted.

The liquidity entries populate the Liquidity Board grid automatically when Position or Holding is created for Legal Entities. See the example below:

EXAMPLE

The Legal Entity **Fund MJ** is intended to invest \$5.000.000 into the **Fund Scottie Pippen** for the “The Last Dance” series production. So far the investment of \$3.000.000 has been made. Hence, the Hazeltree user proceeds to the Legal Entity Structure screen and creates the following Holding in the Fund MJ Legal Entity, specifying the Unfunded and Commitment Amount:

The screenshot shows the 'Investor Holdings as of 7/27/2020' form. It includes fields for Investor (7/27/2020, Fund MJ, USD), Fund (Fund Scottie Pippen, Fund Currency USD, Last Reported MV Date), Share Class (Default, Share Class Portfolio, Category, Last Reported IRR), FX Rate, Total Contribution Percent, Ownership Percent, and Ownership Percent Vehicle. The 'Local Currency: USD' section is expanded, showing fields for Unfunded Amount (2,000,000.00), Recallable Distribution Amount, Total Contribution Amount, Total Distribution Amount, Commitment Amount (5,000,000.00), Commitment Reducing Amount, Total Income, Total Realized Gain, Total Return of Capital, Total Temp. Return of Capital, Total Capital Call Amount (2,600,000.00), Total Management Fees Inside (400,000.00), Total Management Fees Outside, Total Partnership Expenses Inside, and Total Partnership Expenses Outside. At the bottom are Save, Save and Close, and Cancel buttons.

EXAMPLE (CONTINUATION)

Once changes are saved, liquidity entry automatically populates Liquidity Board grid. Select the Holding creation date to display the liquidity entry on the grid. In case of necessity, the Cashflow can be initiated from the Liquidity Board. For example, Capital Call must be created to complete the investment with no interruptions and prolongations:

HTCP	Holding	Fund F - Pension	50,002,550.00	4,562,100.00	John Doe	USD
HTCP	Holding	Fund MJ	5,000,000.00	2,000,000.00	Fund Scottie Pippen	USD
HTCP	Holding	Hazeltree Capit	95,000,000.00	45,900,000.00	Textron Master Trust	USD

The Cashflow Editor screen pops up instantly. It has basic data section automatically populated with settings taken from the liquidity entry. However, they can be moderated in case of necessity.

Cashflow Details - MJ Call

Code*	MJCall	Name*	MJ Call	Type*	Capital Call	Effective Date	7/27/2020	Fund	Fund MJ
Currency	USD	Current Amount	3,000,000.00	Settle Amount	2,400,000.00	Status	Entered	Settlement Date	8/6/2020
<input type="button" value="General"/> <input type="button" value="Transfers"/> <input type="button" value="Attributes"/> <input type="button" value="Attachments"/> <input type="button" value="References"/> <input type="button" value="Audit"/>									
Country	USA - United States	Target Amount	3,000,000.00	Minimal Amount	2,400,000.00	Security	Select entity		
Report Date	7/27/2020	Target Date	8/1/2020						
Created On	7/27/2020	Created By	HTFSSupport						
Last Modified On	7/27/2020	Last Modified By	HTFSSupport						
Locked On		Locked By							
Description MJ Call is passed to Scottie Pippen.									
<input type="button" value="Save"/> <input type="button" value="Save and Close"/> <input type="button" value="Copy"/> <input type="button" value="Lock"/> <input type="button" value="Remove"/> <input type="button" value="Cancel"/>									

GENERIC ASSETS AND LIABILITIES LOGIC

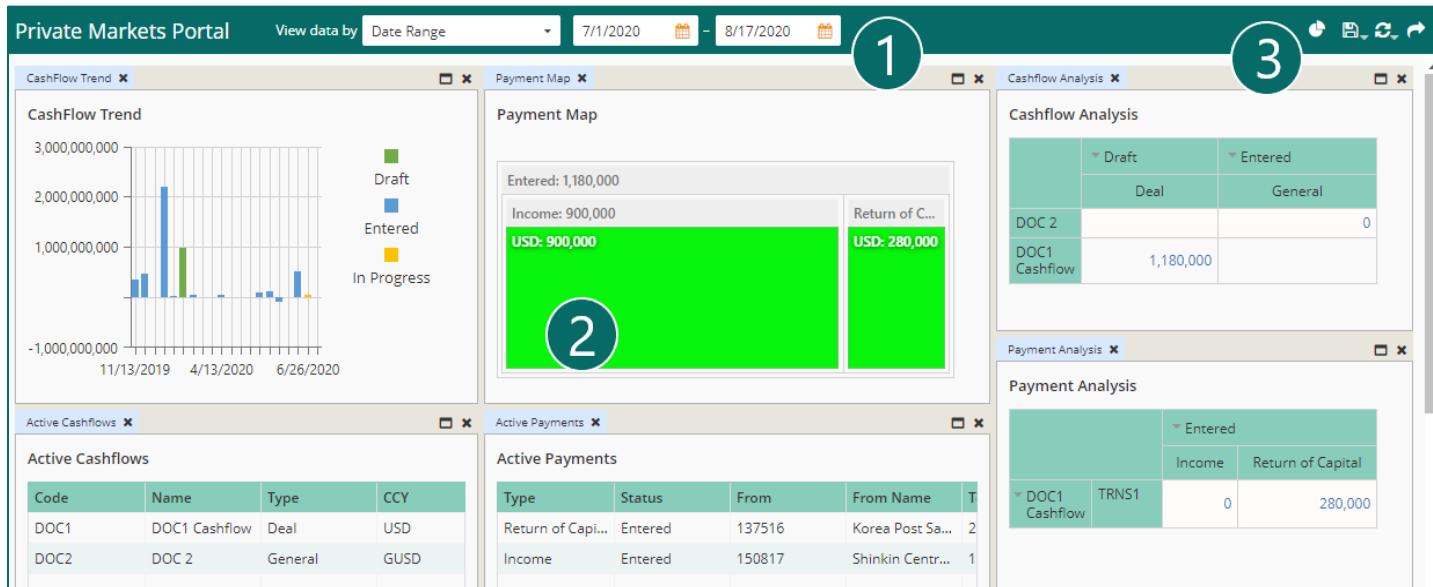
The logic of **Generic assets and Liabilities**, calculated on Legal Entity level on the Liquidity Board, has certain conditions and clauses:

- ✓ Assets and Liabilities values are calculated for each Legal Entity that has position on Liquidity Board.
- ✓ Assets and Liabilities values are displayed for each position.
- ✓ Since one Legal Entity can have Portfolios in different currencies, Assets, Liabilities and Coverage are calculated in Company Base Currency.
- ✓ Other currencies are shows in the columns Assets Currency, Liabilities Currency, Coverage Currency.
- ✓ All FX Rates are derived from the database and return two values: *FXRate* and *InverseFXRate*.
- ✓ If any value, required to calculate Assets or Liabilities on Legal Entity, is missing then the system shows blank values.

PRIVATE MARKETS PORTAL

Private Markets Portal is a widget screen of the Private Markets module. The Portal page contains a pool of widgets available for the Private Markets module. The widget can be selected and placed on the working area of the Portal screen. The position and the scale of the widgets are custom and can be adjusted by the users to their personal convenience.

The Private Markets Portal interface is presented below:



- Upper toolbar:** set of filters that apply to all widgets deployed on the working area if the widgets are not configured to have individual settings.
- Working area:** blank space that is used for widgets deployment. The position and scale of the widgets can be customized by the users.
- Pool of widgets:** dropdown with a list of widgets available for the Private Markets Portal screen. Press on the name of the widget to place it on the working area.

INFO! Every widget has an individual set of parameters. Individual configuration of the widget prevails over the Portal Upper toolbar adjusted settings. The parameters of the widgets can be reviewed under the Configuration Settings window (access directly from the widget's interface).

POOL OF WIDGETS

The pool of widget contains all widgets created for the Private Markets module. Every widget has individual purpose and parameters that can be utilized to the advantage of the user.

See the table below:

Widget Name	Type	Description
Active Cashflows	Grid	Shows the grid with active Cashflows for specified time range.
Active Payments	Grid	Shows the grid with active Payments for specified time range.
Cashflow by Status	Pie chart	Shows the ratio of the Cashflows' statuses.
Cashflow Map	Heat map	Shows the map of current ratio among the Cashflows in a plain of your interest.
Cashflow Trend	Line/Bar/Area chart	Shows the dynamics of the Cashflows' values of your interest.
Cashflow Analysis	Pivot grid	Shows the list of the Cashflows distributed by statuses and types.
Cashflow Widget	Grid	Shows the contents of a Cashflow screen integrated as a widget.

Legal Entities Widget	Grid	Shows the contents of Legal Entities screen with its entire functionality.
Liquidity Board Grid	Grid	Shows the contents of Liquidity Board screen as a reference grid.
Liquidity Board Widget	Grid	Shows the contents of Liquidity Board screen integrated as a widget.
Capital Activities Widget	Grid	Shows the contents of Capital Activities screen integrated as a widget.
Payment Analysis	Pivot grid	Shows the list of the Payment distributed by statuses and types.
Payment Map	Heat map	Shows the map of current ratio among the Payments in a plain of your interest.
Payment Request Widget	Grid	Shows the contents of a Payment Request page integrated as a widget.
Projection Summary	Pivot grid	Shows the Projections generated for designated time period.

PRIVATE MARKETS PUBLIC API

The Private Markets module is provided with the Public API interface. It allows users to interplay with the Private Market entities remotely.

Term: **Public API** is a special programming interface that provides developers with programmatic access to software application. Public API can be used to operate with software data remotely. Public API calls have specific structure and require proper call syntax.

The Private Markets API allows to manage Cashflow entities through the Public API tunnel. Private Markets API provides with a wide set of actions available for managing the Cashflows and Cashflows' components:

- **Cashflows API:** API calls for the Cashflow entities management.
- **Cashflow Transfers API:** API calls for the management of the Transfers within Cashflow entity.
- **Cashflow Payments API:** API calls for the management of the Payments within Transfers.
- **Legal Entities API:** API calls for the management of the Legal Entities.

CASHFLOWS API

Cashflows API is designed for remote Cashflows management and maintenance:

API method name	Purpose
Get Cashflow	Retrieve specified Cashflow's data and parameters
Get Cashflow by Reference Code	Retrieve Cashflow's data and parameters through the Reference entities assigned to the Cashflow
Create Cashflow	Enter a new Cashflow by specifying all required parameters in the request body
Update Cashflow	Modify an existing Cashflow. Specify Cashflow parameters, including ones for a change
Remove Cashflow	Delete an existing Cashflow from the Cashflows grid
Get Cashflow Attachments list	Retrieve a complete list of the files attached to the Cashflow
Create Cashflow Attachment	Add a file to the Cashflow as an attachment
Remove Cashflow Attachment	Delete a file attached to the Cashflow
Create Cashflow External Reference	Add a Reference entity to the Cashflow
Update Cashflow External Reference	Modify a Reference entity assigned to the Cashflow

CASHFLOW TRANSFERS API

Cashflow Transfers API is designed for remote Transfers management and maintenance:

API method name	Purpose
Complete Transfer	Finalize the Transfer posting. Specify the Transfer for completion in the request body
Remove Transfer	Delete a Transfer from the Cashflow specified in the request
Get Transfer Attachment list	Retrieve a complete list of files attached to the Transfer specified in the request
Create Transfer Attachment	Attach a specified file to the Transfer
Remove Transfer Attachment	Delete a file attached to the Transfer
Create Transfer External Reference	Add a Reference entity to the Transfer
Update Transfer External Reference	Modify a Reference entity assigned to the Transfer

CASHFLOW PAYMENTS API

Cashflow Payments API is designed for remote Payments management and maintenance:

API method name	Purpose
Remove Payment	Delete the Payment from the Transfer of the Cashflow
Get Payment Attachments list	Retrieve a complete list of the files attached to the Payment
Create Payment Attachment	Add a file to the Payment as an attachment
Remove Payment Attachment	Delete a file attached to the Payment
Create Payment External Reference	Add a Reference entity to the Payment
Update Payment External Reference	Modify a Reference entity assigned to the Payment

LEGAL ENTITIES API

Cashflow Payments API is designed for remote Legal Entities management and maintenance:

API method name	Purpose
Get Legal Entity	Retrieve specified Legal Entity's data and parameters
Create Legal Entity	Enter a new Legal Entity by specifying all required parameters in the request body
Update Legal Entity	Modify an existing Legal Entity. Specify Legal Entity's parameters, including ones for a change
Get Legal Entity's Fund Positions	Retrieve Fund Positions data of specified Legal Entity
Create Legal Entity's Fund Position	Add a new Fund Position to the specified Legal Entity
Update Legal Entity's Fund Position	Modify the Fund Position of the designated Legal Entity
Create Legal Entity's Investment Holding	Add a new Investment Holding to the specified Legal Entity
Update Legal Entity's Investment Holding	Modify the Investment Holding of the designated Legal Entity

EXAMPLE

Public API calls consist of a set of parameters that must be correctly conveyed to the input device. The example of the API call that removes an attached file from the Cashflow is presented in the table below:

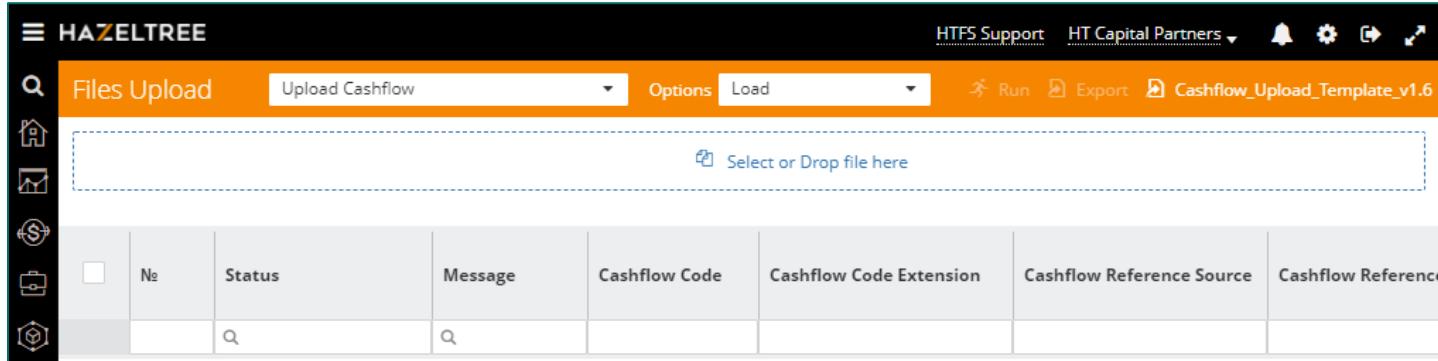
Type	PUT
URL	http://[servername]/publicapi/api/v2/cashflow/attachment/remove
Headers	Content-Type: application/json Authorization: bearer XXXXXXXXXXXXXXXXXXXXXXXXXX
Request syntax	<pre>{ "FileId": 0, "CashflowCode": "string", "Version": "string", "CashflowReferences": [{ "Source": "string", "Code": "string", "Description": "string" }] }</pre>
Expected response	200 OK

INFO! The explicit information regarding the Public API methods available for the Private Markets module can be found in the document **Public API Guide**. Refer to the Public API Guide for details, thorough instructions, and ready API calls templates.

REFERENCE DATA FILE UPLOAD

The Private Market API works through the standard API protocol. The Hazeltree platform also provides with a special tool that works by the same principle as the Private Markets API and allows to manage the Cashflows, Payments and Legal Entities via simple file uploading.

To get access to the tool proceed to *the Reference Data module > Upload Data folder > File Upload screen*.



The *File Upload* screen works in a simple way that implies three crucial steps:

1. **Fill** in the template with the data.
2. **Upload** the template to check the preview.
3. **Run the load** to deploy the data to the Private Markets module.

INFO! The template can be downloaded from the Upper toolbar. The template that is available for the download depends on the options selected in the Upper toolbar dropdown. For example, the **Upload Cashflow** option triggers the **Cashflow_Upload_Template_v1.6** to be displayed on the grid. Users can click on the name of the template to download it and proceed with the routine.

INFO! This option is designed for swift and simplified method of batch upload. It is a good practice to utilize this option when there is a need to create multiple entities.

PRIVATE MARKETS PROJECTIONS

Projections™ is a special set of screens that provides Hazeltree users with the ability to monitor, analyze, manage forthcoming transactions, and keep the planned account changes under review.

The Private Market module is primarily used to issue accomplished business deals by posting a complete set of Transfers that constitute the deal. In most cases the Cashflows contain Transfers which are estimated to be settled in future. It is critical to have a full thorough picture of all upcoming transactions so it is possible to analyze future expenses and incomes. In order to provide with this option, the Private Market module utilizes the Projections toolset.

Term: **Projection** is an aggregator of the transactions details with future settlement dates and accounts' financial states. This information is collected across the Hazeltree platform on a basis of the Projection Schemas which can be customized due to the business requirements of the company. Projection Schemas include Projection Buckets.

The basic management item in the Projections toolset in the **Journal** screen (Transaction Manager module). The screen displays forthcoming Transfers and Payments produced with the Private Markets module.

JOURNAL

Journal screen (module *Transaction Manager*) displays a grid with forthcoming Transfers and Payments distributed among Buckets. Displayed entities can be filtered with a set of instruments deployed on the Upper toolbar. When a user jumps to the Journal screen from Cash Board Balance value, Upper toolbar filters are automatically applied to the grid displaying only those entities which impact Cash Board Balance value.

The Journal screen interface is presented below:

Type	Account	Transaction Part	Bucket	Portfolio	Value (local)	Value (base)	Currency	Actual Process
>	Payment							
	NY State Fund	From		New York State	(20,000,000.00)	(20,000,000.00)	USD	
	NY State Fund	From	Quarterly	New York State	(20,000,000.00)	(20,000,000.00)	USD	
	NY State Fund	From	Yearly	New York State	(20,000,000.00)	(20,000,000.00)	USD	
	Account 1 Fund A	To	Monthly	Fund A	20,000,000.00	20,000,000.00	USD	
	Account 1 Fund A	To	Quarterly	Fund A	20,000,000.00	20,000,000.00	USD	
	Account 1 Fund A	To	Yearly	Fund A	20,000,000.00	20,000,000.00	USD	

- Journal screen:** displays a grid with expected Transactions and projected Payments that fit in selected Projection Schema and time bucket.
- Upper toolbar:** set of data range selectors and integrated filters that allow to filter Journal entities by different parameters.
- Journal grid:** shuttle grid that displays expected Transactions and projected Payments with detailed parameters considering specified Upper toolbar filters.
- Bucket column:** shows the Bucket value taken from Projection Schema for Transactions and Payments that fit in the customized time bucket.

INFO! The explicit information regarding the Projections can be found in the document **Projection Management**. Refer to the Projection Management document for details and thorough instructions.

PRIVATE MARKETS PERMISSIONS

Private Markets module permissions are regulated with the standard Application Features. The Application Features are managed on the Role *Privilege screen*. It can be accessed by the following path: *System Administration* module > *User Administration* folder > *Role Privilege* screen.

NOTE! Basic Private Markets Application Features are contained under two modules: *Cashflow* and *Legal Entity*. However, to utilize side instruments within the Hazeltree application, it is also required to have some Application Features assigned as well: *Projections*, *Reference Data*. They are also listed in below.

CASHFLOW

Application Feature name	Screen	Description
ViewCashflow	Cashflow / Payment	Permission to access Cashflows and Payments screens
EditCashflow	Cashflow	Activates Cashflow Upper toolbar options: • Add • Edit • Copy
LockCashflow	Cashflow	Permission to lock and unlock Cashflows and Transfers
RemoveCashflow	Cashflow	Activates Remove button in Cashflow Editor
EditTransfer	Cashflow	Activates Edit Transfer button in Cashflow Editor
PostTransfer	Cashflow	Activates Port Transfer button in Cashflow Editor
OverrideTransferStatus	Cashflow	Permission to manually change Transfer status
EditPaymentAttachmentsAndReferences	Payment	Permission to edit generic Payment data
EditPaymentDetails	Payment	Permission to edit payment data on Details, Impacts, and Holdings Result tabs
ViewCashflowMenuItem	Cashflow / Payment	Permission to view Cashflows and Payments grids
ViewWidgetsPrivateMarkets	Portal	Permission to access Private Markets Portal page
ViewSuggestedActionsBlotterPrivateMarkets	Optimizer	Permission to view Suggested Actions Blotter
ViewNoticesMenuItem	Capital Activities	Permission to view and access Capital Activities screen

LEGAL ENTITY

Application Feature name	Screen	Description
ViewLegalEntity	Legal Entities / Legal Entity Structure	Permission to view Legal Entities on the grid
EditLegalEntity	Legal Entities / Legal Entity Structure	Permission to access Legal Entity Editor and modify Legal Entities
ViewLegalEntityMenuItem	Legal Entities	Permission to view Legal Entity main menu item and access the screen
ViewLegalEntityTreeMenuItem	Legal Entity Structure	Permission to view Legal Entity Structure main menu item and access the screen
ViewLiquidityBoardMenuItem	Liquidity Board	Permission to view and access the Liquidity Board screen

REFERENCE DATA

Application Feature name	Screen	Description
ViewCommunicationProfile	Legal Entities Editor	Permission to view Communication Profiles tab
EditCommunicationProfile	Legal Entities Editor	Permission to operate within Communication Profiles tab
ViewMessageLayout	Legal Entities Editor	Permission to view Message Layouts tab
EditMessageLayout	Legal Entities Editor	Permission to operate within Message Layouts tab

PROJECTIONS

Application Feature name	Screen	Description
EditProjectionsManagement	Projections	Permission to create or edit Projection Management screen
MenuItemProjectionsManagement	Projections	Permission to view Projections Management Main Menu Item
ViewProjectionsManagement	Projections	Permission to access Projections screen

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