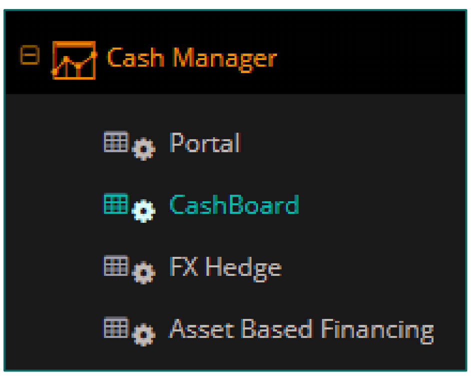
GETTING STARTED WITH: CASH MANAGER

Cash Manager™ is a **Hazeltree™** module designed to control, monitor, analyze, and manage cash positions. Cash Manager consolidates Cash records in single concise dashboard. It allows you to see better interest rates, optimize cash balances by moving cash via wire transfers, deploy excess cash to most profitable accounts and many more. Additionally, the Cash Manager module provides with capability to manage cash positions' exposure to different currencies and control debit interest rates.

Cash Manager module includes four screens:

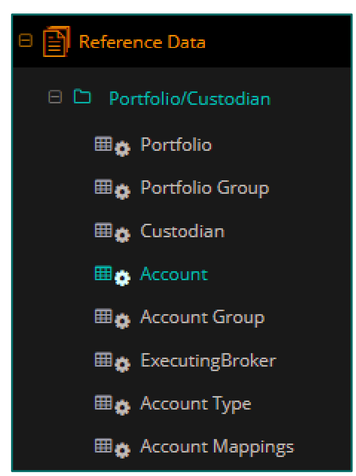


- **Portal**: Cash Manager start page and widgets console.
- **Cash Board**: management aggregation screen that displays available cash and its equivalents on selected trade date and allows to manage cash positions.
- **FX Hedge**: aggregation screen that shows position level exposure to various currencies.
- **Asset Based Financing**: aggregation screen that reflects debit interest rates of the cash positions that comprise based assets.

INFO! Cash Manager and Cash Positions are conjugated with other Hazeltree modules and instruments: *Transaction Manager* (through the Transaction/Voucher entity), *Private Markets* (through the Cashflow entity), *Securities Finance* (through ABF Tiers), *Projection Management*, *Reference Data*, and *Optimizer.*

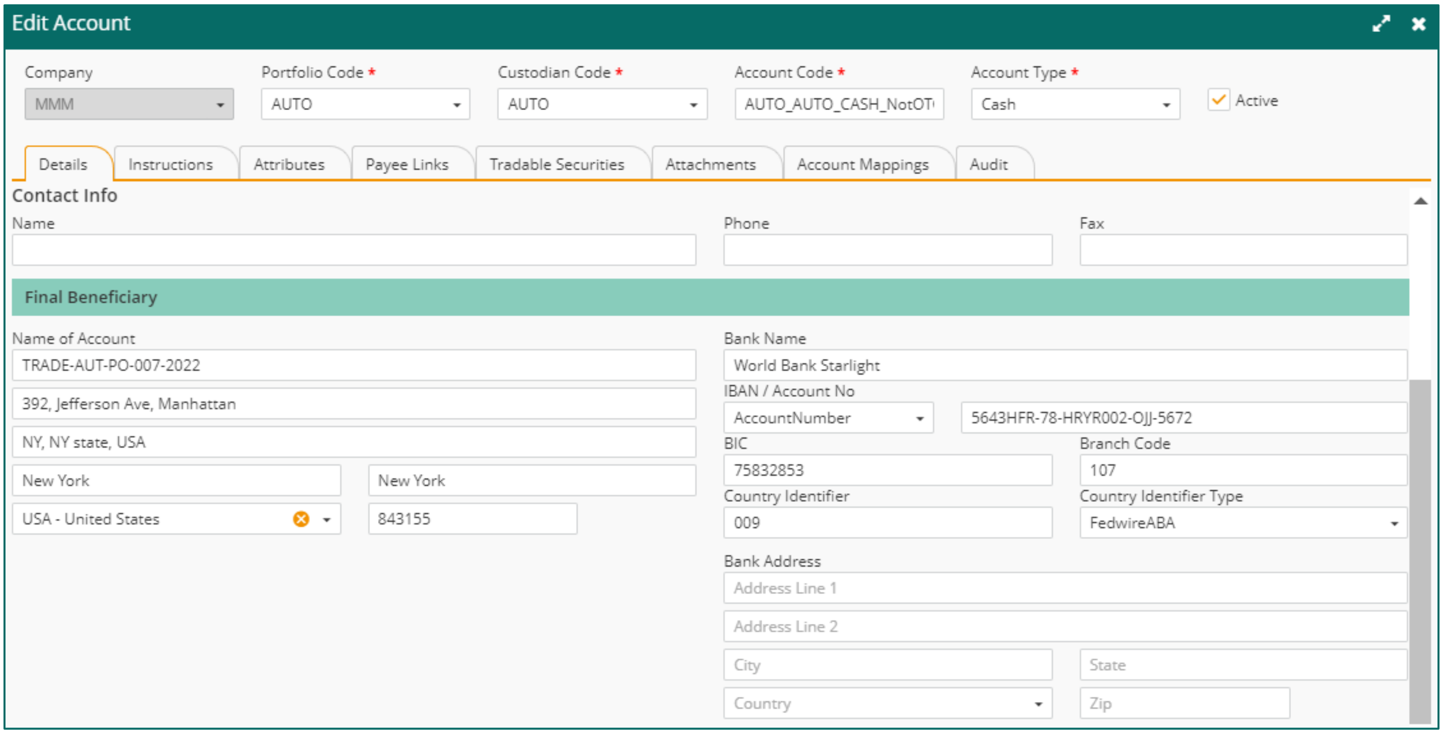
CASH MANAGER REFERENCE DATA

Cash management is not possible without basic Reference Data: Accounts, Custodians, Portfolios. All these entities can be created, managed, adjusted and removed on corresponding screens in the *Reference Data module > Portfolio/Custodian folder*.



NOTE! **Account** is the paramount entity in terms of cash management and cash movement. The Reference Data module offers a very detailed and thorough Editor that allows users to specify attributes required for correct and accurate cash management and movement:

- **Final Beneficiary data**: includes Account Info, Bank name, IBAN, BIC, Branch Code, Country Identifier and its Type.
- **SSI, DI & STI Instructions**: they include Correspondent Bank, Intermediary Bank and Institution Bank info.
- **Payee links**: allows to map certain Payees onto Account.



Account Editor is a multi-component tool with a rich set of various parameters and attributes. Refer to the Reference Data Guide to get full description of this tool. Other screens located in this folder allow to create Account type, manage Account mappings and unify Accounts in groups.

INFO! Assets that constitute the wealth of the Account, form Cash Positions.

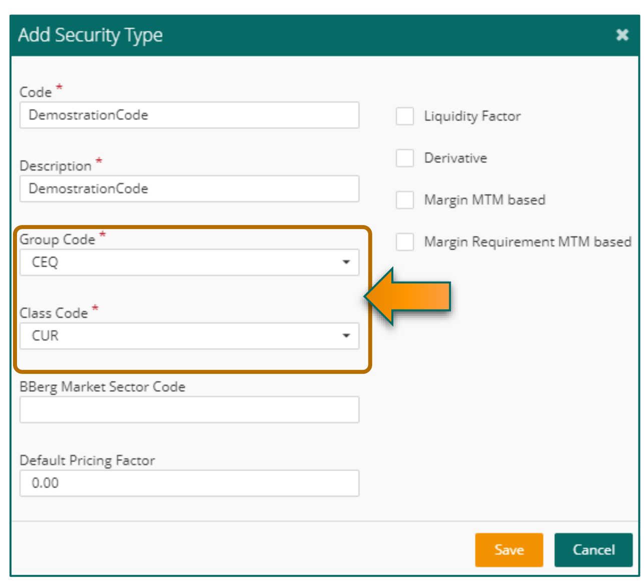
CASH POSITIONS

Cash Positions are formed from the Feed files that are delivered to the Hazeltree from various sources. The sources are divided in two groups:

- **Internal data**: the data flows from the client source (e.g. Accounting system) and is called *Left-side data* on the Cashboard aggregator.
- **Broker data**: the data flows from the Broker side (e.g. Bank) and is called *Right-side data* on the Cashboard aggregator.

Cash Position are also formed with **Cash Equivalents**. The Cash Equivalent is a group attribute of a Security Type which can be created and edited on the following screen: *Reference Data module > Security Master folder > Security Type screen*.

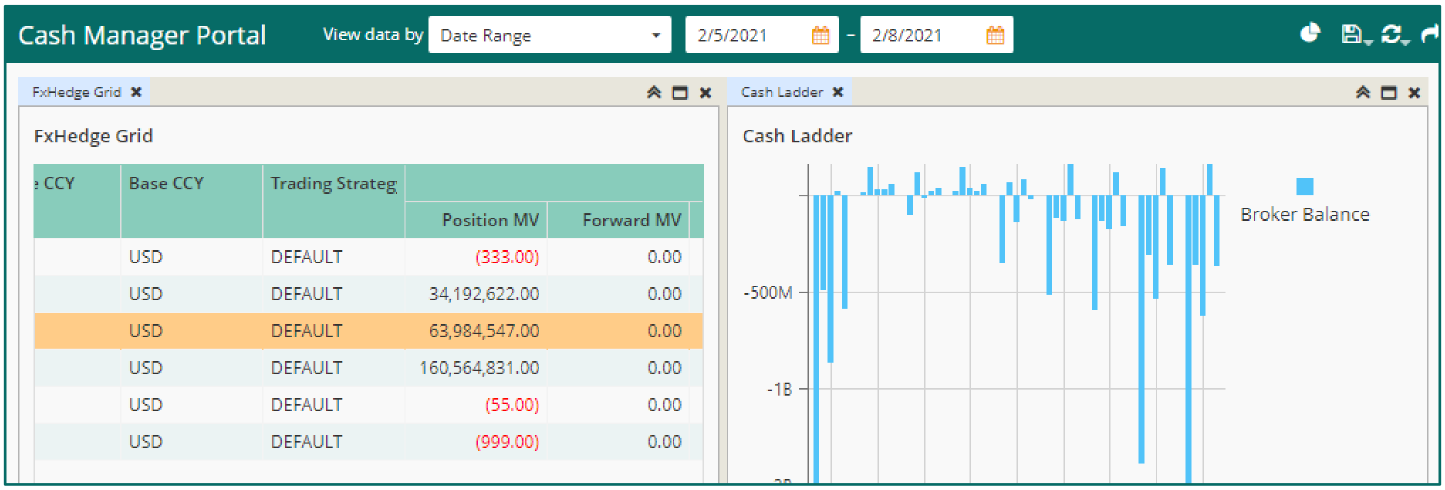
IMPORTANT! Cashboard aggregator shows only cash positions with Security Type **CUR** and security positions with a Group Code **CEQ** (Cash Equivalents). You can also use this basic setting of a Security Type (Group = CEQ) to manage what Securities users can see on the Cashboard aggregator.



PORTAL

Portal screen is a start page of the Cash Manager module used to operate with Cash Manager widgets. The working area of the Portal screen allows to select required widgets form the widgets set and deploy them in any order and scale.

NOTE! Remember: every widget can be individually customized and tuned up to the needs of a single user. To save the individual Portal layout and the widgets' configuration, use the Save Layout As option on the right-side toolbar. If not saved, the Portal layout will be automatically rolled back to default.



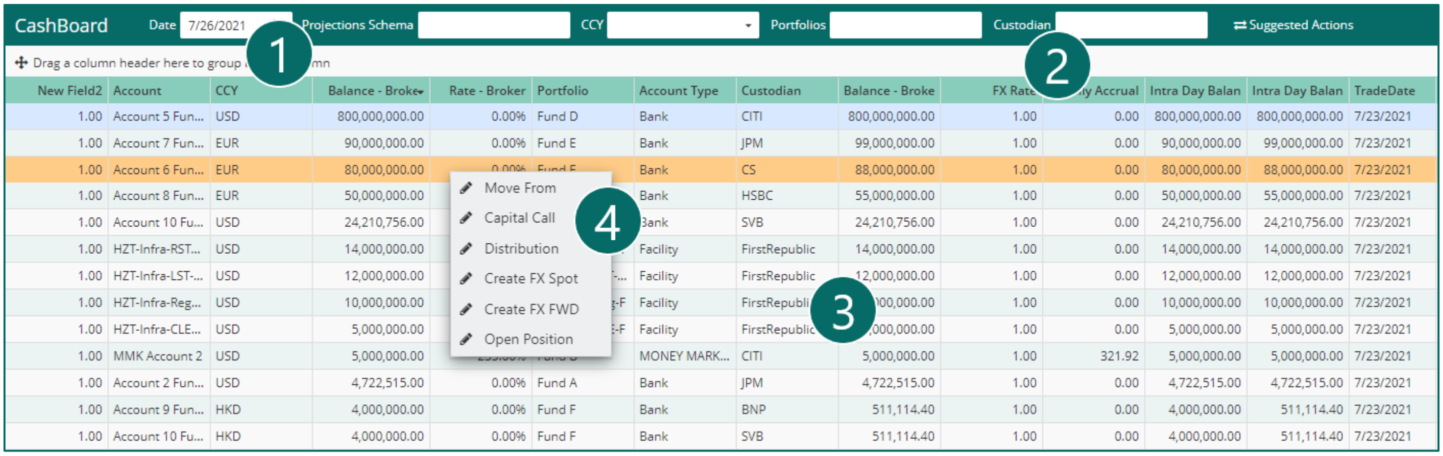
Cash Manager Portal screen stores the following widgets:

Widget Name	Widget Type	Description
Allocations by Broker	Grid	Shows the asset based positions' allocation grouped by Broker
Asset Based Financing	Grid	Shows the limited grid of the Asset Based Financing screen
Available MV by Broker	Grid	Shows the unallocated market value of the positions' Tiers grouped by Broker
Active Cashflows	Grid	Contains all active Cashflows from the Cashflows grid (*Private Markets*)
Cash Balance Breakout	Line/Bar/Area chart	Shows the cash position ratio of balances grouped by Account
Cash Collection	Grid	Displays all cash position with detailed parameters and with no grouping
Cash Funding	Pivot grid	Displays Debit Balance and Debit Rate of cash positions grouped by Funds
Cash Trend	Line/Bar/Area chart	Shows the ratio of the cash positions balances grouped by Portfolio
Cashboard Day-Over-Day Grid	Grid	Displays day-over-day changed in cash positions
Cashboard Grid	Grid	Displays the Cashboard grid for the designated date
Cashboard Map	Heatmap	Shows the ratio of cash positions grouped in three steps (can be Portfolio, Currency, Custodian, Account)
Cash Ladder	Line/Bar/Area chart	Shows the dynamics of the Broker balance, Free Cash of Internal balance
Free Cash	Line/Bar/Area chart	Shows the balance of free cash for the designated time period
FX Hedge Grid	Grid	Shows FX Hedge grid for the designated date
Interest Accruals	Grid	Shows Calculated daily accruals for cash positions
Wire Breakdown	Line/Bar/Area chart	Shows ratio of the existing Wires grouped by types

Cash Board

Cash Board is an aggregative screen that shows cash position and their equivalents for the date designated on the Upper toolbar selector. Cash Board allows users to manage their cash positions by using inbuilt tools for creating Cashflows and Transactions/Vouchers of different types. It is also possible to edit cash position directly form the Cash Board.

The Cash Board is reviewed below:



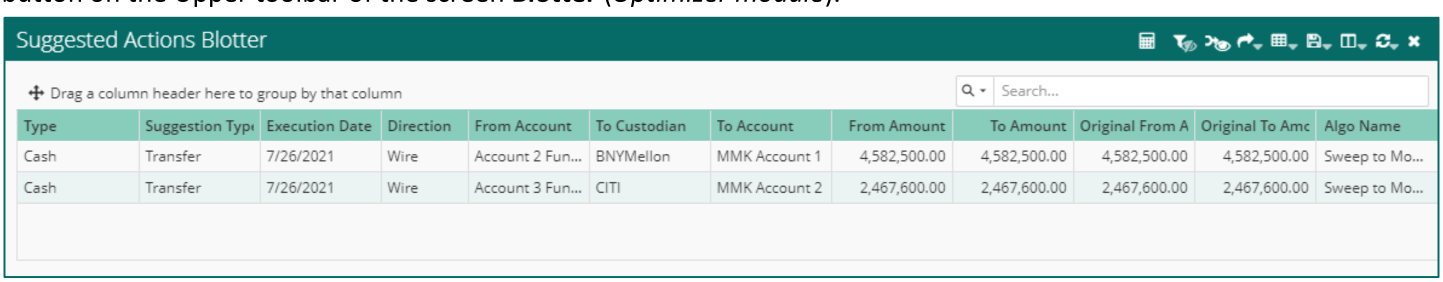
1. **Date selector**: select the date for the Cashboard grid to display cash positions that date.
2. **Upper toolbar**: set of operational buttons and filters to interplay with cash position on the grid.
3. **Cash Board grid**: cash positions with parameters extracted from the Feed files and calculated inside the system.
4. **Context menu**: set of operational buttons that allow to manage cash positions directly on the screen.

Upper Toolbar

Cash Board Upper toolbar comprises a set of filters and one operational button *Suggested Actions*. The filters are as follow:

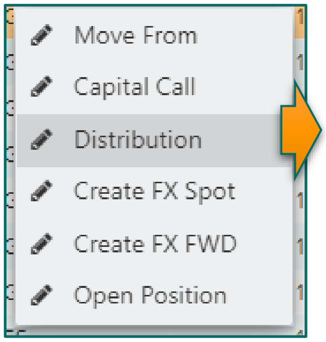
- **Projections Schema**: select one or several Projection Schemas to display cash positions that fit in the Buckets of selected Projection Schemas. All Projection Schemas and their Buckets can be reviewed and adjusted here: *Reference Data module > Projections folder > Projections Management screen*.
- **CCY**: filter out cash positions on the grid by the Currency (CCY column).
- **Portfolios**: filter out cash positions on the grid by the Portfolio (Portfolio column).
- **Custodian**: filter out cash positions on the grid by the Custodian (Custodian column).

The Upper toolbar contains only one operational button: ***Suggested Actions***. It opens a Suggested Actions Blotter pop-up screen: it stores all Suggested Actions produced with Optimizer Cash Solution. the Optimizer by using the Run Optimizer button on the Upper toolbar of the screen **Blotter** (*Optimizer module*).



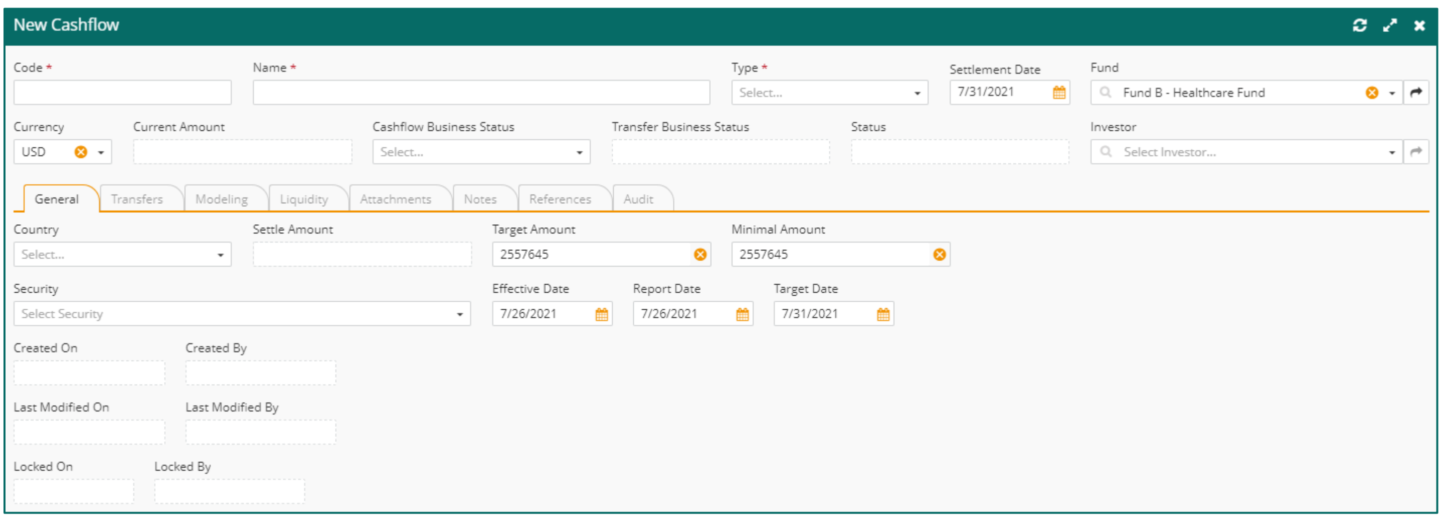
CONTEXT MENU

Context menu is available with right click on the cash position entry on the grid. The menu contains options that can be applied to a specific cash position: create a *Transaction Entry*, create a *Cashflow*, open *Position Editor*. Be advised that the number of options displayed on the context menu plate vary in dependence on the cash position type.



- **Move From**: opens Transaction Entry with predefined From Side (Portfolio, Account).
- **Capital Call**: opens Cashflow Editor for Capital Call type Cashflow creation.
- **Distribution**: opens Cashflow Editor for Distribution type Cashflow creation.
- **Create FX Spot**: opens Transaction Entry with predefined FX Trade Type.
- **Create FX FWD**: opens Transaction Entry with predefined FX Trade Type.
- **Open Position**: opens Position Editor that allows to change the cash position values.

NOTE! Every option opens a corresponding pop-up screen used to operate with selected entity. For instance, if a user selects the *Capital Call* option, the **New Cashflow** screen will appear on top of the Cash Board screen. It will have predefined parameters taken from the cash position (*Target Amount, Minimum Amount, Currency*). Predefined parameters are still available for editing.



CASH BOARD GRID

Cash Board grid displays cash positions for the day selected on the Date selector. The data translated to the Cash Board screen is retrieved from Feed files of two sources (Internal and Broker). Be aware that feeding data files is not the only way to create a cash positions: they can be created in the module *Position Management*.

INFO! Cash Board grid contains standard columns that display basic parameters of the position (*Currency, Custodian, Account, Portfolio, Balance, Rate*). They are intuitive and do not require additional explanation. Some of the columns are unique for the Cash Board. They are explained below.

INTRA DAY BALANCE COLUMN

Cash Board, aside traditional approach of the overnight cash balance calculation, provides with Intra Day Balance data.

> *Term:* **Intra Day Balance** is cash balance value that shows position balance for specified date considering intraday transactions fluctuations within the working day.

NOTE! By default, Intra Day Balance value includes only completed transactions. However, it is possible to tune up the system, so Cash Board includes pending transactions into calculations as well. To do so, proceed to *System Administration module* and update the *Company Preference* **Include Pending Wires In Intra Day** to get True value.

HAS SUGGESTED ACTIONS

Has Suggested Actions column shows if there are any Suggested Actions produced for this cash positions. If there are, you can post this recommended actions and therefore optimize your cash Portfolio.

> *Term:* **Suggested Actions** are recommended Actions produced with the Optimizer tool on the basis on written Algos that constitute a Solution designed specifically for optimizing cash positions.

NOTE! This Solution is manually designated in the Company Preference **Cash Optimization Solution**.

FREE CASH

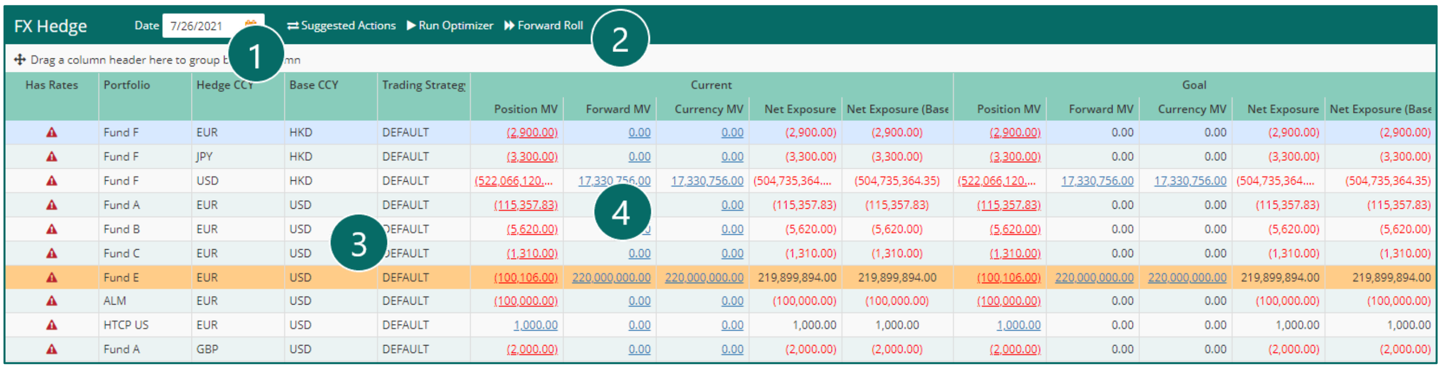
Free Cash is the amount of cash that is not secured for covering Account's based assets. Free cash is calculated automatically by taking the lower Broker Balance and Margin Excess/Deficit for Prime Broker accounts.

FX Hedge

FX Hedge is a management screen designed to display position level exposure to various currencies and recommend actions to manage and maintain desired exposure levels for the client's Portfolios.

FX Hedge is different from any other aggregation and management screen: some key values of the FX Hedge screen can be configured in correspondence with aspects of the business strategy using the *Settings* option on the *right-side toolbar*.

The FX Hedge screen is reviewed below:



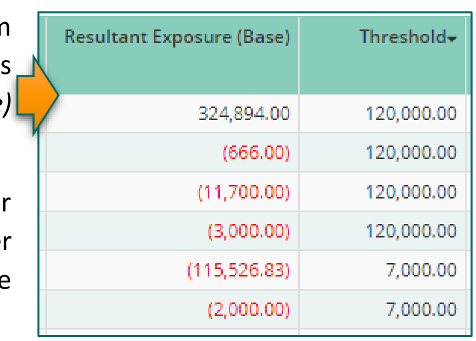
Has Rates	Portfolio	Hedge CCY	Base CCY	Trading Strateg	Current					Goal				
					Position MV	Forward MV	Currency MV	Net Exposure	Net Exposure (Base	Position MV	Forward MV	Currency MV	Net Exposure	Net Exposure (Base
	Fund F	EUR	HKD	DEFAULT	(2,900.00)	0.00	0.00	(2,900.00)	(2,900.00)	(2,900.00)	0.00	0.00	(2,900.00)	(2,900.00)
	Fund F	JPY	HKD	DEFAULT	(3,300.00)	0.00	0.00	(3,300.00)	(3,300.00)	(3,300.00)	0.00	0.00	(3,300.00)	(3,300.00)
	Fund F	USD	HKD	DEFAULT	(522,066,120....	17,330,756.00	17,330,756.00	(504,735,364....	(504,735,364.35)	(522,066,120....	17,330,756.00	17,330,756.00	(504,735,364....	(504,735,364.35)
	Fund A	EUR	USD	DEFAULT	(115,357.83)	[illegible]	0.00	(115,357.83)	(115,357.83)	(115,357.83)	0.00	0.00	(115,357.83)	(115,357.83)
	Fund B	EUR	USD	DEFAULT	(5,620.00)	[illegible]	0.00	(5,620.00)	(5,620.00)	(5,620.00)	0.00	0.00	(5,620.00)	(5,620.00)
	Fund C	EUR	USD	DEFAULT	(1,310.00)	0.00	0.00	(1,310.00)	(1,310.00)	(1,310.00)	0.00	0.00	(1,310.00)	(1,310.00)
	Fund E	EUR	USD	DEFAULT	(100,106.00)	220,000,000.00	220,000,000.00	219,899,894.00	219,899,894.00	(100,106.00)	220,000,000.00	220,000,000.00	219,899,894.00	219,899,894.00
	ALM	EUR	USD	DEFAULT	(100,000.00)	0.00	0.00	(100,000.00)	(100,000.00)	(100,000.00)	0.00	0.00	(100,000.00)	(100,000.00)
	HTCP US	EUR	USD	DEFAULT	1,000.00	0.00	0.00	1,000.00	1,000.00	1,000.00	0.00	0.00	1,000.00	1,000.00
	Fund A	GBP	USD	DEFAULT	(2,000.00)	0.00	0.00	(2,000.00)	(2,000.00)	(2,000.00)	0.00	0.00	(2,000.00)	(2,000.00)

1. **Date selector**: select the date for the FX Hedge grid to display positions for that day*.
2. **Upper toolbar**: contains three Optimizer operational buttons.
3. **FX Hedge grid**: contains positions for the designated date grouped by Portfolio and Currency (*by default*).
4. **Values with hyperlinks**: some of the values on the grid are clickable and they open pop-up screens associated with the values displayed in the column (*e.g. Position MV opens a pop-up screen that shows all position inside the Portfolio, their Market Value and hedging percent*).

***IMPORTANT!** The Date selector has the following impact on the entries displayed on the grid:

- If Date value is set to current date then the FX rates and positions are returned for ***previous business day***.
- If Date value is set to date in the past then the FX rates and positions are returned for ***selected date***.

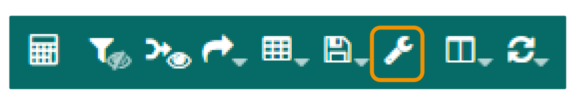
INFO! Generally the FX Hedge screen is used to mitigate and eliminate risks from currency exchange rate changes; hence the default goal for the person who uses the FX Hedge screen would be to bring the value *Resultant Exposure (Base)* beneath the *Threshold* value.



Resultant Exposure (Base)	Threshold
324,894.00	120,000.00
(666.00)	120,000.00
(11,700.00)	120,000.00
(3,000.00)	120,000.00
(115,526.83)	7,000.00
(2,000.00)	7,000.00

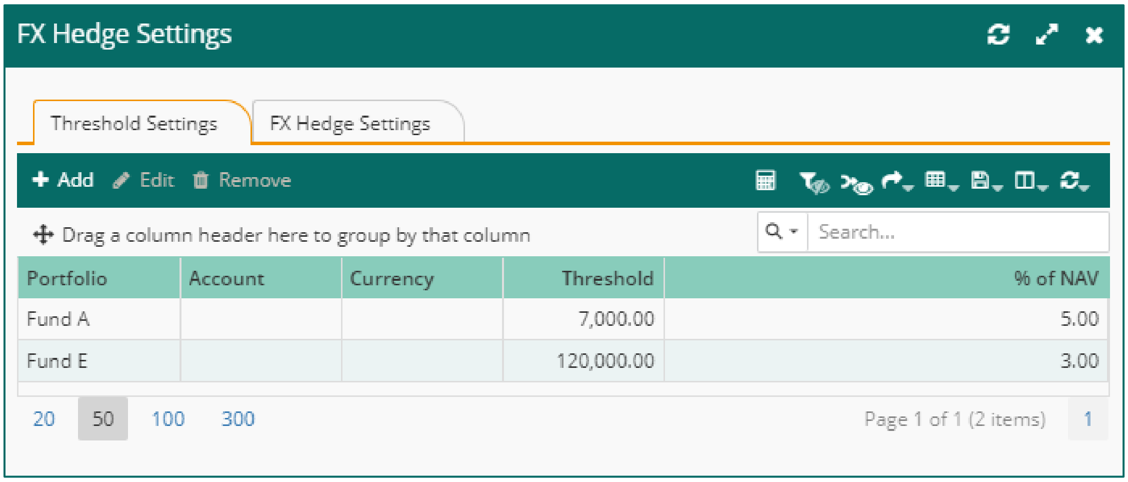
Threshold is a value that can be configured specifically for the Portfolio (or Account, or Currency), thus the level of exposure can be set up selectively. In order to create or edit a Threshold, use the right-side toolbar *Settings* to open the parameters of the FX Hedge screen.

FX Hedge Settings



FX Hedge Settings is a set of parameters that determines the FX Hedge Thresholds, calculation process, and Optimizer Solutions. FX Hedge Settings are located on the *right-side toolbar*.

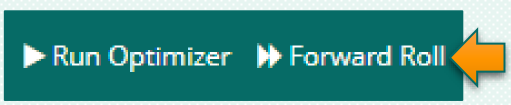
FX Hedge Settings screen has two major sections (tabs):



- **Threshold Settings**: contains grid with all Thresholds created for Portfolios, Accounts or Currencies. The number of Thresholds is not limited. Every Portfolio, Account or Currency can have a Threshold.
- **FX Hedge Settings**: defines Group level of the FX Hedge entries (*Portfolio by default*), Default Transaction Message Type (*FX Trade by default*), Days to Maturity (*3 by default*), and Generating items (*Forward by default*). It also defines Solutions of *Optimization Solution* and *Forward Roll Optimization Solution*.

FX HEDGE SOLUTIONS

The Solutions specified in the *Optimization Solution* and *Forward Roll Optimization Solution* entries are the Solutions that user launches by using the **Run Optimizer** and **Forward Roll** Upper toolbar buttons, respectively. All available Solutions can be reviewed on the screen Solutions of the Optimizer module.



IMPORTANT! Parameters on the *FX Hedge Settings* tab are always greyed out and cannot be modified directly on the screen. In order to change these settings use **Company Preferences** (*System Administration module*).

FX HEDGE SETTINGS COMPANY PREFERENCES

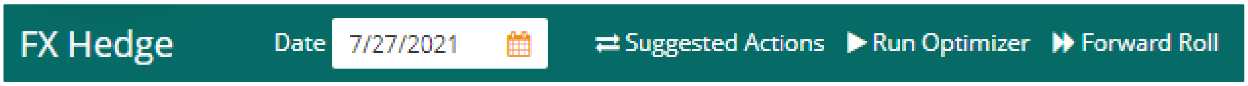
To modify FX Hedge Settings Company Preferences proceed to the screen Company Preferences (*System Administration module*). The table below contains all FX Hedge Company Preferences and possible values.

Company Preference Name	Description
FxHedgeIncludePendingWiresInIntraDay	If set **True**: system includes Transaction Messages in status **Submitted** to FX hedge pending Transactions.
FXHedgeGroupLevel	• If set **Portfolio**: groups FX hedge positions by hedge currency (CCY) and Portfolio (e.g. Portfolios with same base currencies are displayed as different groups). This setting is default. • If set **Strategy**: groups FX hedge positions by hedge currency (CCY), Portfolio and Strategy. • If set **Currency**: groups FX hedge positions by hedge currency (CCY) and Portfolio currency (Base CCY).
FxHedgeDaysToMaturity	Default value = 3.
FxHedgeIncludeSpots	Allows to include/exclude cash (currency) balances in FX Forward MV.
FxHedgeOptimizationSolution	Insert the name of the Solution that is launched with **Run Optimizer** button. Default value = FxHedgeForwardSolution.
FxHedgeForwardRollOptimizationSolution	Insert the name of the Solution that is launched with **Forward Roll** button. Default value = FxHedgeForwardRollSolution.

FXHedgeOverrideNetExposureBaseWithMvBase	Takes position base value from the date series table
FxHedgeFxSubType	Defines which **FxTrade** type should be used by default.
FxHedgeSuggestedFxTradeType	Name of **TM Type** used for Suggested Actions.

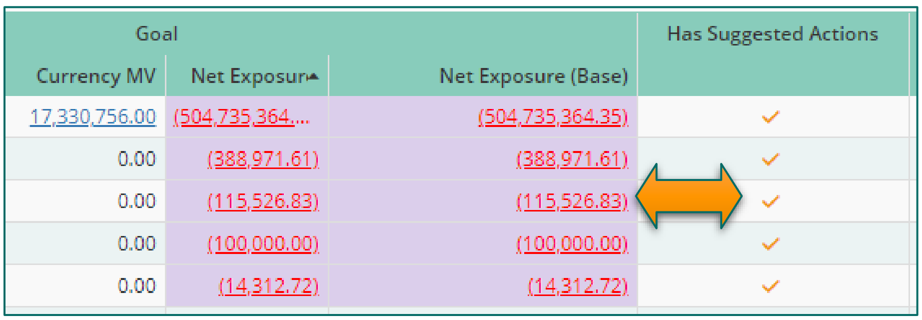
UPPER TOOLBAR

Upper toolbar of the FX Hedge screen contains three operation Optimizer buttons:



- **Suggested Actions**: pop-up screen of the Optimizer Blotter that contains produced recommended actions for Portfolios suggesting Transaction of FX Trade type for positions with unprofitable hedging.
- **Run Optimizer**: launcher of the Optimization Solution that is specified on the FX Hedge Settings screen.
- **Forward Roll**: launcher of the Forward Roll Optimization Solution that is specified on the FX Hedge Settings screen.

INFO! Produced Suggested trades are generated on a basis of the *Goal* bulk of data (grid section Goal). When a suggested action is produced with the *Optimization Solution*, the value Net Exposure of the Goal section transforms into a hyperlink which brings up a pop-up screen with Suggested Actions in the same currency as the record on the grid.



Goal			Has Suggested Actions
Currency MV	Net Exposure	Net Exposure (Base)	
17,330,756.00	(504,735,364....	(504,735,364.35)	✓
0.00	(388,971.61)	(388,971.61)	✓
0.00	(115,526.83)	(115,526.83)	✓
0.00	(100,000.00)	(100,000.00)	✓
0.00	(14,312.72)	(14,312.72)	✓

FORWARD ROLL INFO

Hazeltree Cash Manager is shipped to clients with preinstalled default *Forward Roll Optimization Solution*. It can be modified or totally replace with own Solution that fits in client's business requirements. In order to do this, modify the value of the FxHedgeForwardRollOptimizationSolution Company Preference (*System Administration module*).

Here are the specifics of the default Solution that is launched with Forward Roll button:

- The scope of the Solution is positions which Security Type Code ***FWD***.
- The Company preference ***FxHedgeDaysToMaturity*** defines if a Forward is rolled: if *Current Date* <= *Forward's Maturity Date* <= *Current Date* + *Days To Maturity* then Forward is rolled. Otherwise it is skipped.

The basic logic rules of the default *Forward Roll Optimization Solution* are as follow:

- **If Forward Market Value is null**: no generated suggested actions.
- **If Forward Market Value is greater than null**: Solution generates a suggested action to Purchase a Forward with same Maturity Date and Amount that equals *Total Amount*.
- **If Forward Market Value is lower than null**: Solution generates a suggested action to Sell a Forward with the same Maturity Date and Amount that equals *Total Amount.*

FX HEDGE GRID

FX Hedge grid is divided into four logical parts: *Grouping*, *Current*, *Goal*, and *Balance*.

GROUPING

Grouping columns that describe how the position are grouped on the FX Hedge screen. By default all positions are grouped by Portfolio and Currency. The level of grouping can be changed in FX Hedge Settings. These columns are:

Portfolio	Hedge CCY	Base CCY	Trading Strateg
Fund F	EUR	HKD	DEFAULT
Fund F	JPY	HKD	DEFAULT
Fund F	USD	HKD	DEFAULT
Fund A	EUR	USD	DEFAULT
Fund B	EUR	USD	DEFAULT

- **Portfolio**
- **Hedge CCY**
- **Base CCY**
- **Trading Strategy**

CURRENT

Current is an allotted section with a set of five columns that show today's value of the FX Hedge entries. The columns of the section are:

Current				
Position MV	Forward MV	Currency MV	Net Exposure	Net Exposure (Base
(2,900.00)	0.00	0.00	(2,900.00)	(2,900.00)
(3,300.00)	0.00	0.00	(3,300.00)	(3,300.00)
(522,066,120....	17,330,756.00	17,330,756.00	(504,735,364....	(504,735,364.35)
(115,526.83)	0.00	0.00	(115,526.83)	(115,526.83)
(5,620.00)	0.00	0.00	(5,620.00)	(5,620.00)

- **Position MV**: market value of positions in the Portfolio (except for the positions with Security Type Codes *FWD*, *CUR*, *FXS*). The value represents a hyperlink that brings up the *Positions-Current* pop-up screen.
- **Forward MV**: market value of position with Security Type Codes *FWD* and *FWD+CUR*. The value represents a hyperlink that brings up *Forward Position-Current* pop-up screen.
- **Currency MV**: market value of position with Security Type Code CUR. The value represents a hyperlink that brings up *Currency Position-Current* pop-up screen.
- **Net Exposure**: the local value of the Net Exposure calculated by addition of values *Position MV* and *Forward MV*.
- **Net Exposure (Base)**: the base value of the Net Exposure calculated by multiplication of values *Net Exposure* and *FX Rate*.

GOAL

Goal is another allotted section with a set of columns identical to the Current section. The Goal columns represent the projected/desired market value of positions constituting the Portfolio and their Net Exposure. The columns of the section are:

Goal				
Position MV	Forward MV	Currency MV	Net Exposure	Net Exposure (Base)
(2,900.00)	0.00	0.00	(2,900.00)	(2,900.00)
(3,300.00)	0.00	0.00	(3,300.00)	(3,300.00)
(522,066,120....	17,330,756.00	17,330,756.00	(504,735,364....	(504,735,364.35)
(115,526.83)	0.00	0.00	(115,526.83)	(115,526.83)
(5,620.00)	0.00	0.00	(5,620.00)	(5,620.00)
(1,310.00)	0.00	0.00	(1,310.00)	(1,310.00)

- **Position MV**: market value of positions in the Portfolio (except for the positions with Security Type Codes *FWD*, *CUR*, *FXS*). The value represents a hyperlink that brings up the *Positions-Goal* pop-up screen.
- **Forward MV**: market value of position with Security Type Codes *FWD* and *FWD+CUR*. The value represents a hyperlink that brings up *Forward Position-Goal* pop-up screen.
- **Currency MV**: market value of position with Security Type Code CUR. The value represents a hyperlink that brings up *Currency Position-Goal* pop-up screen.
- **Net Exposure**: the local value of the Net Exposure calculated by addition of values *Position MV* and *Forward MV*.
- **Net Exposure (Base)**: the base value of the Net Exposure calculated by multiplication of values *Net Exposure* and *FX Rate*.

BALANCE

Balance columns demonstrate how close is the client to the values of the Goal section considering the overall amount of Transaction Messages pending for execution and if the settled Thresholds are respected. The columns of the Balance part are:

Pending Transa	Resultant Exposure	Resultant Exposure (Base)
330,756.00	(2,900.00)	(2,900.00)
0.00	(3,300.00)	(3,300.00)
56,330.00	(504,735,364.35)	(504,735,364.35)
0.00	(115,526.83)	(115,526.83)
0.00	(5,620.00)	(5,620.00)

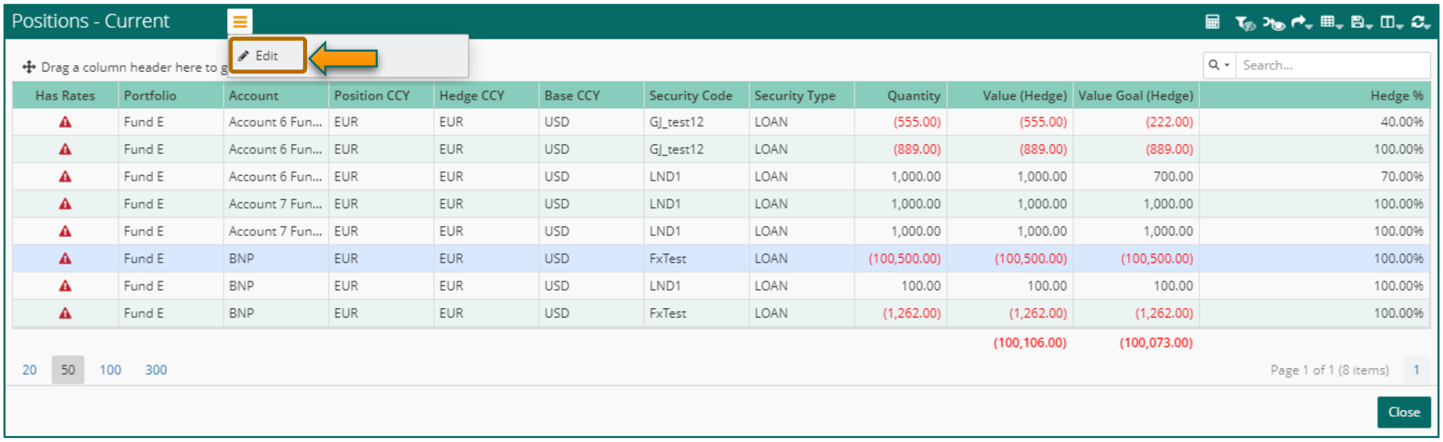
- **Pending Transactions**: an overall amount of all Transaction Messages with type *FX Trade* involving the positions inside the Portfolio. The value represents a hyperlink that leads to the Transactions screen (*Transaction Manager module*) with a selection of the *FX Trade* TMs.
- **Resultant Exposure**: a final value of the Exposure calculated by subtracting *Pending Transactions* value from *Goal Net Exposure.*
- **Resultant Exposure (Base)**: the base value of the Resultant Exposure calculated by multiplication of values *Resultant Exposure* and *FX Rate*.

INFO! The companies' goal is to mitigate or ideally eliminate the risks and unprofitable location of currencies. The main task for users is to bring the *Resultant Exposure* (both *Hedge* and *Base*) values beneath Threshold; ideally the value Resultant Exposure should be 0 (zero).

HEDGING PERCENT

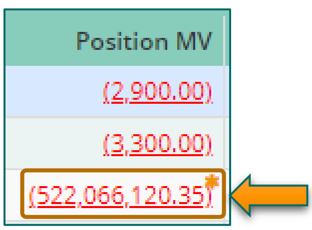
Hedging percent is the scale of the position currency that constitute the market value of the FX Hedge entry. FX hedge screen provides with the tool that allow to manipulate with Hedging percent of the positions' market value (*Position*, *Forward* and *Currency*). This option is available for both Current and Goal section.

In order to review the hedging percent of the positions click on the value under *Position MV*, *Forward MV* or *Currency MV* columns. To modify the hedging percent select the entry of the position on the grid and press Edit button on the ribbon.



Has Rates	Portfolio	Account	Position CCY	Hedge CCY	Base CCY	Security Code	Security Type	Quantity	Value (Hedge)	Value Goal (Hedge)	Hedge %
	Fund E	Account 6 Fun...	EUR	EUR	USD	GJ_test12	LOAN	(555.00)	(555.00)	(222.00)	40.00%
	Fund E	Account 6 Fun...	EUR	EUR	USD	GJ_test12	LOAN	(889.00)	(889.00)	(889.00)	100.00%
	Fund E	Account 6 Fun...	EUR	EUR	USD	LND1	LOAN	1,000.00	1,000.00	700.00	70.00%
	Fund E	Account 7 Fun...	EUR	EUR	USD	LND1	LOAN	1,000.00	1,000.00	1,000.00	100.00%
	Fund E	Account 7 Fun...	EUR	EUR	USD	LND1	LOAN	1,000.00	1,000.00	1,000.00	100.00%
	Fund E	BNP	EUR	EUR	USD	FxTest	LOAN	(100,500.00)	(100,500.00)	(100,500.00)	100.00%
	Fund E	BNP	EUR	EUR	USD	LND1	LOAN	100.00	100.00	100.00	100.00%
	Fund E	BNP	EUR	EUR	USD	FxTest	LOAN	(1,262.00)	(1,262.00)	(1,262.00)	100.00%
									(100,106.00)	(100,073.00)	

The hedging percent change will impact the total market value: the recalculation occurs immediately after the screen is closed. The market value with modified Hedge percent will be highlighted with the * sign.



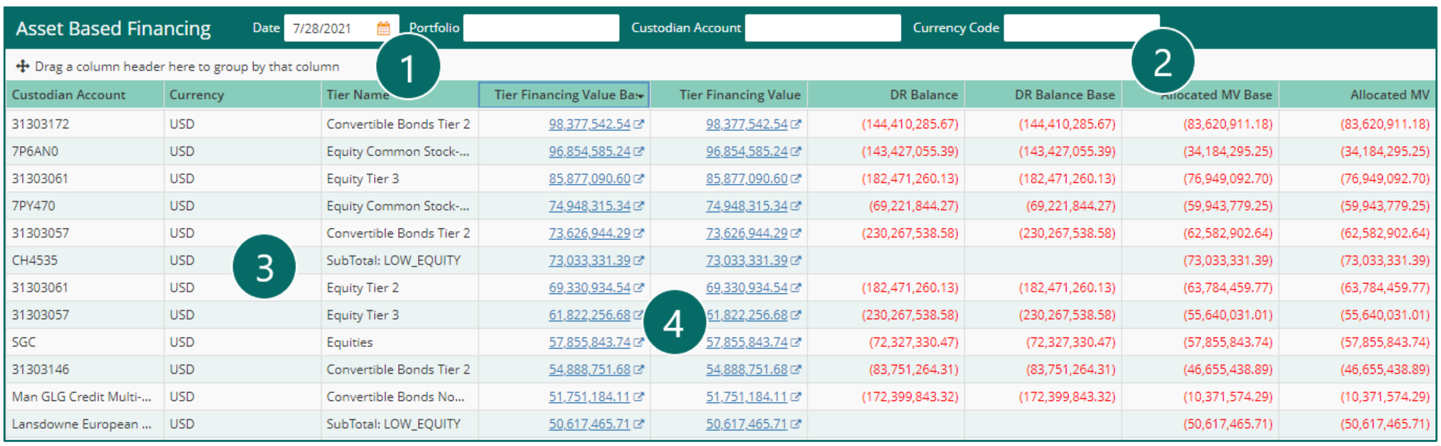
Asset Based Financing

Asset Based Financing is an aggregation screen that shows positions with *debit balances* that are allocated against the eligible assets (*Securities*) that constitute the position.

The purpose of Asset Based Financing is to arrive at a blended debit interest rate that reflects the cost of funding the asset categories that comprise the Portfolio's *debit balance*. This debit rate becomes the rate with which debit interest accruals are calculated.

> *Financial Term:* **Debit balance** is the money owed to the broker to support leveraged Portfolio. The client pays interest based on their financing schedule, CCY specific benchmark, and spread. Financing schedule is determined by asset quality of the clients long Portfolio.

The Asset Based Financing is reviewed below:



Custodian Account	Currency	Tier Name	Tier Financing Value Ba:	Tier Financing Value	DR Balance	DR Balance Base	Allocated MV Base	Allocated MV
31303172	USD	Convertible Bonds Tier 2	98,377,542.54	98,377,542.54	(144,410,285.67)	(144,410,285.67)	(83,620,911.18)	(83,620,911.18)
7P6AN0	USD	Equity Common Stock-...	96,854,585.24	96,854,585.24	(143,427,055.39)	(143,427,055.39)	(34,184,295.25)	(34,184,295.25)
31303061	USD	Equity Tier 3	85,877,090.60	85,877,090.60	(182,471,260.13)	(182,471,260.13)	(76,949,092.70)	(76,949,092.70)
7PY470	USD	Equity Common Stock-...	74,948,315.34	74,948,315.34	(69,221,844.27)	(69,221,844.27)	(59,943,779.25)	(59,943,779.25)
31303057	USD	Convertible Bonds Tier 2	73,626,944.29	73,626,944.29	(230,267,538.58)	(230,267,538.58)	(62,582,902.64)	(62,582,902.64)
CH4535	USD	SubTotal: LOW_EQUITY	73,033,331.39	73,033,331.39			(73,033,331.39)	(73,033,331.39)
31303061	USD	Equity Tier 2	69,330,934.54	69,330,934.54	(182,471,260.13)	(182,471,260.13)	(63,784,459.77)	(63,784,459.77)
31303057	USD	Equity Tier 3	61,822,256.68	61,822,256.68	(230,267,538.58)	(230,267,538.58)	(55,640,031.01)	(55,640,031.01)
SGC	USD	Equities	57,855,843.74	57,855,843.74	(72,327,330.47)	(72,327,330.47)	(57,855,843.74)	(57,855,843.74)
31303146	USD	Convertible Bonds Tier 2	54,888,751.68	54,888,751.68	(83,751,264.31)	(83,751,264.31)	(46,655,438.89)	(46,655,438.89)
Man GLG Credit Multi-...	USD	Convertible Bonds No...	51,751,184.11	51,751,184.11	(172,399,843.32)	(172,399,843.32)	(10,371,574.29)	(10,371,574.29)
Lansdowne European ...	USD	SubTotal: LOW_EQUITY	50,617,465.71	50,617,465.71			(50,617,465.71)	(50,617,465.71)

1. **Date selector**: select the date for the Asset Based Financing grid to display positions for that day.
2. **Upper toolbar**: set of three filters applied to the grid entries (*Portfolio, Custodian Account, Currency Code*).
3. **Asset Based Financing grid**: displays asset based positions for the designated date.
4. **Values with hyperlinks**: some of the values on the grid are clickable and they open pop-up screens associated with the values displayed in the column (*e.g. Position MV opens a pop-up screen that shows all position inside the Portfolio, their Market Value and hedging percent*).

INFO! Asset Based Financing displays the rate of the *debit balance* of the position. Since the rate is compound, the screen checks the debit balance, assets and shows what assets influence that rate and in what way, and how the overall rate impacts the Portfolio.

Assets are bucketed into *Tiers* based on Security attributes such as Security type, rating and index membership. Assets can be allocated either *Waterfall* or *Proportional*.

WATERFALL / PROPORTIONAL ASSETS ALLOCATION

Waterfall allocation means that the best quality assets are allocated against the debit balance until either the assets or the debit balance is exhausted.

Proportional allocation means the assets are summed as a proportion of the total Long Market Value and allocated against the debit balance. For example, if the 25% of the assets are Investment Grade bonds, then the 25% of the debit balance will be charged using the benchmark and spread for that asset Tier.

INFO! Typically the assets are allocated against a debit balance of the same currency. However, for some brokers the long assets can be FX'ed and summed across currencies and then allocated proportionately across all debit balances.

Asset Based Financing Tiers are configured in the *Reference Data module > Agreements folder > ABF Tier Management*.

ABF Tier Management   Custodian ASL   Portfolio   Show Inactive   Edit Mode   File Upload

Drag a column header here to group by that column

Custodian	Portfolio	ABF Currency	Tier Name	Tier Name Sublevel	Tier Name Sublevel 2
ASL	ZZZ	EUR	Tier 56		

Asset Based Financing Grid

Asset Based Financing grid contains standard grid columns (Custodian Account, Currency, Portfolio) that display basic position attributes. The general fields that display asset based data are reviewed below.

Tier Financing Value	Tier Financing Value Base	DR Balance	DR Balance Base	Allocated MV Base	Unallocated MV Base	Allocated MV	Unallocated MV
13,470,500.00	10,753,173.15	(36,788.36)	(29,367.25)	(29,367.25)	10,723,805.89	(36,788.36)	13,433,711.64
0.00	0.00	(439,940.49)	(70,062.03)	(70,062.03)	0.00	(439,940.49)	0.00
9,944,600.00	11,776,395.32	(3,397,152.06)	(4,022,907.47)	(5,224,728.37)	6,551,666.95	(4,412,032.06)	5,532,567.94
29,896,416.00	22,049,130.47	(30,776,353.52)	(22,698,099.80)	(22,049,130.47)	0.00	(29,896,416.00)	0.00
0.00	0.00	(30,776,353.52)	(22,698,099.80)	(648,969.33)	0.00	(879,937.52)	0.00
30,686,007.90	30,686,007.90	(72,327,330.47)	(72,327,330.47)	(16,178,638.73)	14,507,369.17	(16,178,638.73)	14,507,369.17
57,855,843.74	57,855,843.74	(72,327,330.47)	(72,327,330.47)	(57,855,843.74)	0.00	(57,855,843.74)	0.00
0.00	0.00	(0.78)	(0.04)	(0.04)	0.00	(0.78)	0.00
0.00	0.00	(1.47)	(0.38)	(0.38)	0.00	(1.47)	0.00
5,875,761.31	5,875,761.31			(1,893,553.24)	3,982,208.07	(1,893,553.24)	3,982,208.07

- **Tier Financing Value**: the remaining long market value with applied haircut.
- **Tier Financing Value Base**: the remaining long market value with applied haircut in base currency.
- **DR Balance**: amount of Debit balance that is allocated to the ABF Tiers. This amount matches the Cash Board debit balance.
- **DR Balance Base**: base currency amount that is allocated to the ABF Tiers. This amount matches the Cash Board debit balance in base currency.
- **Allocated MV**: amount of the debit balance that is allocated to the Tier Loan Value.
- **Unallocated MV**: amount of Tier Financing Value that has not been allocated to the debit balance.
- **Allocated MV Base**: amount of the debit balance that is allocated to the Tier Loan Value in base currency.
- **Unallocated MV Base**: amount of Tier financing Value that has not been allocated to the debit balance in base currency.

INFO! Additionally, the grid also calculates and average accrual rate across Tiers weighted by the financing value per Tier. The value can be found in the column **Accrual Rate**.

TIER FINANCING VALUE (BASE)

Tier Financing Value and **Tier Financing Value Base** columns display remaining long market value with applied haircut (in Fund and Base currencies correspondingly). These value represent hyperlinks that lead to the screen **Position Financing Detail** (*Securities Finance module*) where the selection is made automatically based on the Tiers.

Position Financing Detail   Date 7/30/2021   Position Type   Custodian   Portfolio   Merge securities

Drag a column header here to group by that column

Custodian Code	Asset	Custodian Acco	Custodian Acc	Security	Position	Currency	Sec Code	ABF Tier Name	ABF Allocated MV	Quantity - Broker S/D	Market Value - Broker S/D (Ba:
AAA	APTAU 0 03/12/26	3843	SGC	BOND	POS	AUD	APTAU 0 03/12/26	Debt	(531.51)	15,000,000.00	9,522,120.24
AAA	BNS V5.65 12/3...	3843	SGC	BOND	POS	CAD	BNS V5.65 12/31/56 06-1	Debt	(37,091.19)	10,000,000.00	10,827,506.01
AAA	CLNXSM 0.75 11...	3843	SGC	BOND	POS	EUR	CLNXSM 0.75 11/20/31 CLNX	Debt	(5,874,124.74)	10,000,000.00	11,760,321.20

The screen shows all assets that belong to a specific ABF Tier. As on a basic Position Financing Detail screen users can operate with entries in a regular fashion (e.g. check the Security in the Security Master tool using the link in the Sec Code column).