



5.0

Release Notes

Overview

About the Release Notes

The Release Notes are a comprehensive user guide for the latest release of Mambu. The Mambu Release Notes give you everything you need to get up and running with the new features and enhancements in the latest release.

What's Included in the Release Notes

For every new major enhancement, the Release Notes provide:

- A high-level description of the functionality
- Implementation tips to help you get started with setup and administration
- Tips to help you maximize the benefits

Beyond the major new features, the Additional Enhancements section include a list and brief description of every other enhancement or functional change included in the latest release—everything from email, to new report types, to security and packaging.

The release notes also cover any changes to existing functionality that you and your users should be aware of. We highly recommend exploring both the changes and the new features in your sandbox environment before the production go-live date.

Your Feedback Matters

We know how important the Release Notes, online help, and documentation are to your company's success with Mambu. To continually improve the service we deliver to you, we want to know what works and what doesn't. Let us know by contacting support@mambu.com or your account manager.

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1. Changes in Existing Functionality

1.1 “Payment Plan” loan product type renamed to “Interest-Free Loan”

In order to create a new payment method used for fixed loan accounts with declining balance equal installments, called Payment Plan, we renamed the Payment Plan product type into Interest-Free Loan product type.

No changes to the behaviour of this product will occur and no action is required.

1.2 Credit Arrangements show State and Approval Date

The Credit Arrangement overview includes new fields, as part of APP-566:

- State -> the current state of the Credit Arrangement: Pending Approval, Approved or Active. A Credit Arrangement becomes Active when accounts are added to it.
- Approval Date -> Mambu will update via a migration script the existing Credit Arrangements Approval Date to be the same as the existing "Created Date"

See more details under "2.1 States for Credit Arrangements" chapter.

2. New Features

General

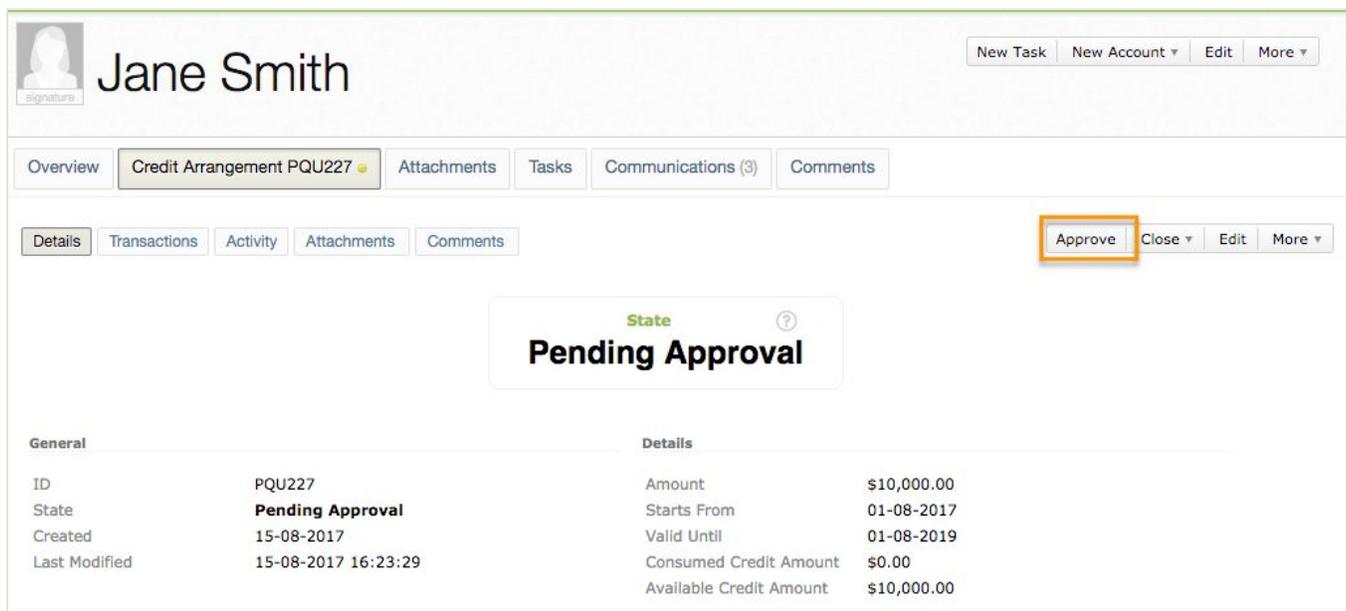
2.1 States for Credit Arrangements

Mambu has added States for Credit Arrangements, allowing organisations to set up workflows for this entity type.

Under Administration -> Internal Controls you can select the "New Credit Arrangement Initial State" to be either "Approved" or "Pending Approval".



If the configuration above is set to "Pending Approval", then all Credit Arrangements will be created with this state and it will require a user approval.



General		Details	
ID	PQU227	Amount	\$10,000.00
State	Pending Approval	Starts From	01-08-2017
Created	15-08-2017	Valid Until	01-08-2019
Last Modified	15-08-2017 16:23:29	Consumed Credit Amount	\$0.00
		Available Credit Amount	\$10,000.00

Users must have "Approve Credit Arrangements" permission enabled in order to perform the approve action.

Additional actions possible on Credit Arrangements in Pending Approval state:

1. Undo Approval -> requires "Undo Approval Credit Arrangement" permission
2. Close - Withdraw -> requires "Withdraw Credit Arrangements"
3. Undo Withdraw -> requires "Undo Withdraw Credit Arrangements"
4. Close - Reject -> requires "Reject Credit Arrangements"
5. Undo - Reject -> requires "Undo Reject Credit Arrangements"

Credit Arrangements in Pending Approval state do not allow adding accounts to it, they have to be first approved. Activities will be captured on the account every time a Credit Arrangement transitions states. The Rejection and

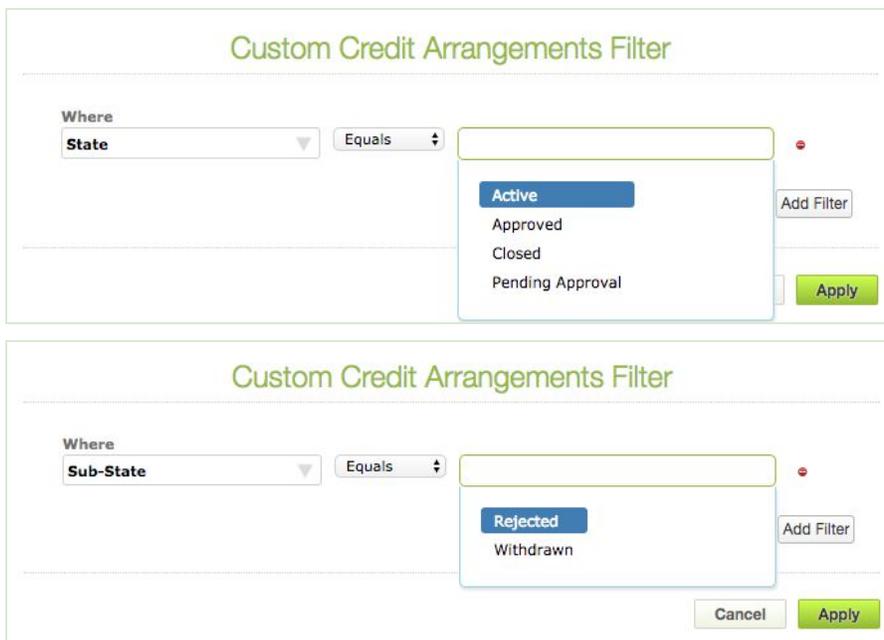
Withdrawal of Credit Arrangements is only possible from Pending Approval state, Active Credit Arrangements cannot be withdrawn or rejected. It is also not possible to edit the terms of Credit Arrangements in "Closed-Withdrawn" or "Closed-Rejected" state.

Credit Arrangements in Pending Approval state can be deleted, since they do not allow adding accounts to it, same as for Credit Arrangements in Approved state that do not have any accounts added yet. Once accounts are added to a Credit Arrangement, they can no longer be deleted.

The Credit Arrangement overview also includes new fields:

- State -> the current state of the Credit Arrangement: Pending Approval, Approved or Active. A Credit Arrangement becomes Active when accounts are added to it.
- Approval Date -> Mambu will update via a migration script the existing Credit Arrangements Approval Date to be the same as the existing "Created Date"

On the reporting side, Mambu has added to the "Credit Arrangements" custom view the "State", "Sub-state" and "Approval Date" as columns and filters. Please note that "Rejected" and "Withdrawn" are sub-states of the "Closed" state, and can be found under this specific filter and column, as in below screenshot. These filters are available via APIs as well, on API 1.0 version.



Changing the Credit Arrangement state is possible via APIs as well via API 2.0s endpoints. See more details under the APIs Enhancements section of this document.

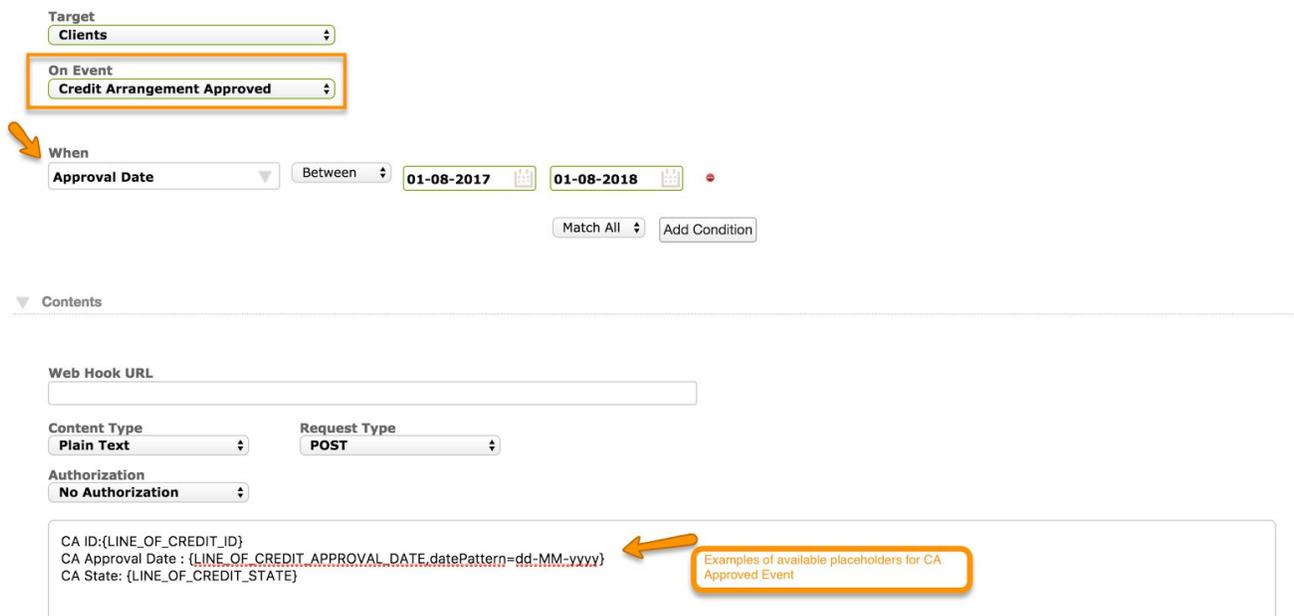
References: APP-566

2.2 Notification triggers for Credit Arrangements

Mambu supports now creating notifications for all Credit Arrangement actions. Organizations can notify their clients when a Credit Arrangement is created ,approved ,rejected or withdrawn. In addition, they can receive alerts if the Credit Arrangement was deleted or closed or if accounts were added/removed.

Specific placeholders and conditions have been added to support customers in collecting certain data for their credit plans, the most notable ones being:

1. APPROVED_CREDIT_AMOUNT to display the Approved Amount when a Credit Arrangement is created
2. AVAILABLE_CREDIT_AMOUNT to display the Available Amount when an account is added to a Credit Arrangement
3. CONSUMED_CREDIT_AMOUNT to display the Consumed Credit Amount for a Credit Arrangement
4. LINE_OF_CREDIT_ID to display the ID of the CA
5. LINE_OF_CREDIT_STARTS_FROM to display when the CA starts
6. LINE_OF_CREDIT_VALID_UNTIL to display until when is the CA available
7. LINE_OF_CREDIT_NOTES to display any notes added at CA creation



Target: Clients

On Event: Credit Arrangement Approved

When: Approval Date Between 01-08-2017 01-08-2018

Match All Add Condition

Contents

Web Hook URL

Content Type: Plain Text Request Type: POST Authorization: No Authorization

CA ID: {LINE_OF_CREDIT_ID}
 CA Approval Date : {LINE_OF_CREDIT_APPROVAL_DATE.datePattern=dd-MM-yyyy}
 CA State: {LINE_OF_CREDIT_STATE}

Examples of available placeholders for CA Approved Event

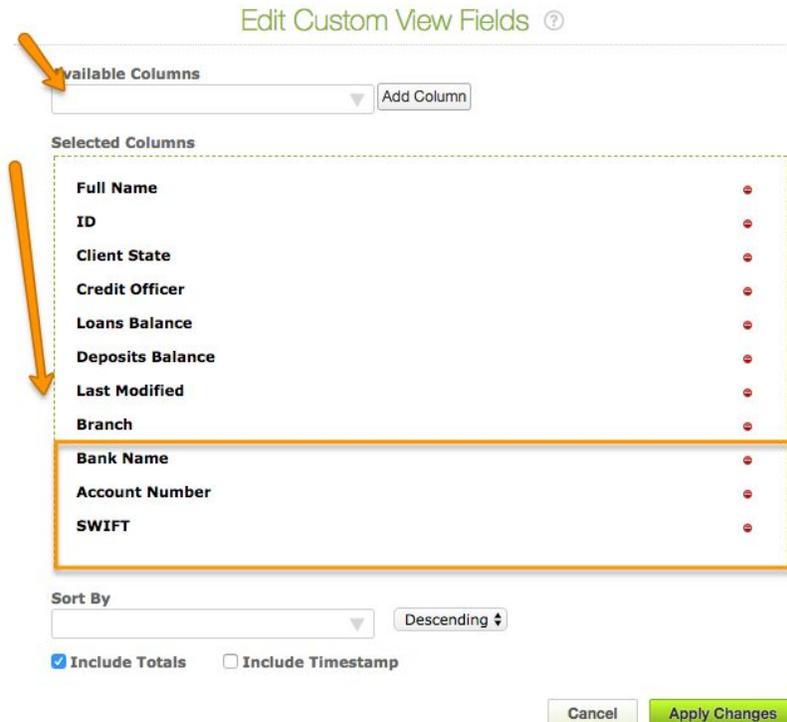
Note: All of the listed events and their respective placeholders/conditions will be available for all notification types: **Email, SMS and Webhook**

References: APP-542

2.3 Adding fields stored in Grouped Custom Field sets in Reports

Mambu 5.0 introduces a new functionality to manage Grouped Custom Fields into Custom Views. Organizations will greatly benefit of it, as they will be able to tailor their reports with both Standard and Grouped custom data.

1. For example, if you want to track information about a client's bank accounts, edit clients custom view fields and from the available columns drop-down select the bank details you need:



2. Apply the changes and all grouped data will be displayed in the view. Grouped custom fields will be displayed concatenated if more than one set is created for a specific group:

Full Name	ID	Client State	Credit Officer	Loans Balance	Deposits Balance	Last Modified	Branch	Bank Name	Account Number	SWIFT
Andrea Mambu	867484850	Active		\$52.144,70	\$9.993.678.113,93	18-08-2017	Berlin Branch	N26 Sparkasse	12123456781234567890 370400440532013000	NTSBDEB1 BELADEBE
John Lewis	108935457	Active		\$10.400,01	\$0,00	18-08-2017	Singapore Mambu	N26	1234567890111234567890	NTSBDEB1
Janne Stewart	526688117	Active		\$0,00	\$3.000,00	18-08-2017		ING	11223344567	INGBNL2A
Harry Michael	662263502	Active		\$3.210,00	\$0,00	18-08-2017		Commerzbank	2211331123	COBADEFF
Robert John	664717100	Active		\$0,00	\$4.000,00	18-08-2017		Caixa	44221136789	CAIXESBB

3. Manage the results by exporting the report to excel. The file will display each grouped custom set in a separate line. This will allow users to filter and sort the data per specific custom columns for further analysis:

Full Name	ID	Client State	Credit Officer	Loans Balance	Deposits Balance	Last Modified	Branch	Bank Name	Account Number	SWIFT
Andrea Mambu	867484850	Active		52144,70	9993678113,93	18-08-2017	Berlin Branch	N26	12123456781234567	NTSBDEB1
Andrea Mambu	867484850	Active		52144,70	9993678113,93	18-08-2017	Berlin Branch	Sparkasse	37040044053201300	BELADEBE
John Lewis	108935457	Active		10400,01	0,00	18-08-2017	Singapore Mambu	N26	12345678901112345	NTSBDEB1
Janne Stewart	526688117	Active		0,00	3000,00	18-08-2017		ING	11223344567	INGBNL2A
Harry Michael	662263502	Active		3210,00	0,00	18-08-2017		Commerzbank	2211331123	COBADEFF
Robert John	664717100	Active		0,00	4000,00	18-08-2017		Caixa	44221136789	CAIXESBB

 **Note:** If you need to filter the Custom View per Grouped Custom Fields ,Mambu already supports this functionality. You'll now be able to display your custom lists with only certain types of grouped custom data.

References: APP-610

Loans

2.4 Periodic Payment for Payment Plan method on Fixed Loan Accounts

A new payment method was added for fixed loan products with declining balance equal installments interest calculation method, called payment plan. When this option is selected in product form, some of the default options are hidden: Interest Rate constraints, Installments constraints, Grace Period section and rounding options, only No Rounding option being available for Rounding of Repayment Currency.

When creating a loan account with payment plan method, periodic payments can be defined. The user can set an amount for x number of installments and the effective rate and term length will be automatically calculated.

▼ Account Terms

Loan Amount \$ USD Repaid Every **Months** ▼

Payment Plan

\$ for installments to +

\$ for installments to - +

Effective Rate Term Length **Installments**

Arrears Tolerance Period **Days**

Interest Calculation Method
Declining Balance (Equal Installments)

These type of products are used when the interest is changed throughout the life of the loan and with it the organisations can have a more competitive offer on the market.

 **Note:** Payment Plan loan product type was renamed into Interest-Free Loan.

References: APP- 647

2.5 Include Interest Accrued when locking a loan account

For the organisations that are using capping, we've added the possibility to lock the account before charges reach a certain limit, in order to fulfil the legal requirements. At the same time, the profit from charges that are still within the limit are not withheld, being applied before locking the account.

At product level a new check-box was added under Cap Charges option, to enable if accrued interest and penalties should be included when lock (Capping) a loan account:

▼ Internal Controls ?

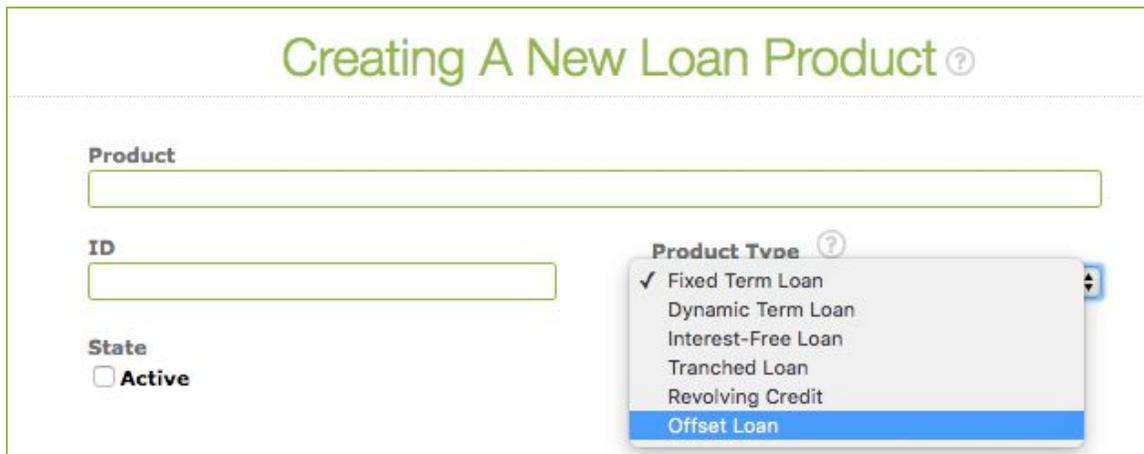
Close Dormant Accounts
 Lock Arrears Accounts
 Cap Charges more than
 Apply accrued charges before lock (capping)

If case of soft constraints, the accrued amount is applied in the current day, even if it exceeds the threshold and after the account is locked. In case of hard constraints, the accrued amount is applied in the previous day, the accrued amount for one day it will remain as accrued and after that the account is locked.

References: APP- 645

2.6 Redraw Facility for Offset Loan Product type

Mambu has added a new loan product type called "Offset Loans", which will have several functionalities added to it such as redraw facility and offsetting the interest charged on the loan account against a deposit account balance which is linked to the loan account (The offset account linking functionality is not yet available. Further functionalities will be delivered in phases and first off Mambu has added the first phase for Redraw Facility, detailed below.)



Creating A New Loan Product ?

Product

ID

State
 Active

Product Type ?
 Fixed Term Loan
 Dynamic Term Loan
 Interest-Free Loan
 Tranched Loan
 Revolving Credit
 Offset Loan

A loan with a redraw facility allows a borrower to borrow money they've already repaid. For example, the borrower's expected monthly installment amount is \$100. If they pay more each month, such as \$200 for a period of 6 months they'll have paid an extra \$600 on top of what they had to pay. A redraw facility then allows the borrower to withdraw that extra \$600 if needed, but at the same time it also reduces the expected interest due, since they are considered as prepayments.

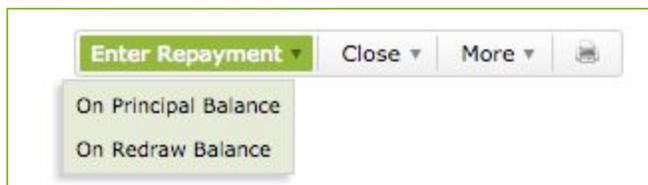
When creating products for your organisation and selecting "Offset Loan" a new section has been added to the product configuration form: "Redraw Settings" which when selected it will allow for the account to accept payments which can later on be withdrawn.

"Offset Loan" product is a dynamic type of loan and is available only with "Declining Balance (equal installments)" interest method, and the interest is capitalized when applied.

The interest accrued for loans with Redraw Facility enabled is calculated as:

$$\text{Daily Loan Interest Rate \%} * (\text{Outstanding Loan Principal Balance} - \text{Redraw Balance})$$

When performing a payment on a loan account the user can select from two options, making a repayment:



In terms of accounting, the repayment is on Principal balance, the repayment option allows for the repayment to be recorded under "Redraw Balance" and will allow in the future to be withdrawn. A repayment with option "On Principal Balance" means the repayment is allocated to Principal but can not be withdrawn anymore, and it adjusts the schedule, according to "Reduce Number of Installments" prepayment recalculation method.

If the repayment is made "On Redraw Balance" then, as stated above, in the future it will allow withdrawing from the amount and the repayment is recorded as "Payment Made" under transactions tab. At due date, if there is an amount available under "Redraw Balance", Mambu will automatically make a repayment towards the due installment. If the available "Redraw Balance" is higher than what is due, Mambu will only transfer the due amount, the difference remaining available as "Redraw Balance". "Payment Made" transactions can also be reversed, just as a "Repayment" transaction.

The Accounting bookings for payments "On Principal Balance" stays as is, whereas payments made "On Redraw Balance" follow below logic:

When entering a Payment Made transaction, below journal entries will be logged for the total paid amount:

Type	GL Account
Debit	Transaction Source
Credit	Loan Portfolio

When interest is applied, we also Capitalize it on Redraw accounts, therefore Mambu perform below bookings, for the interest amount:

Type	GL Account
Debit	Loan Portfolio
Credit	Interest Income

At loan Pay Off action, Mambu will deduct the redraw balance from the Payoff Amount, since the amount left under Redraw Balance was already paid towards the loan.

You can also include the "Redraw Balance" in notifications and documents, below placeholders being available:

- REDRAW_BALANCE -> this balance is the actual withdrawable amount on the account, that was made "On Redraw Balance"
- EXPECTED_PRINCIPAL_REDRAW -> this balance is the Expected Principal if the amount under Redraw Balance is not withdrawn

The above balances can also be observed on the loan account overview.

In regards to reporting, you can use "Redraw Balance" and "Expected Principal (Redraw)" as columns and filters for "Loan Accounts" and "Loan Transactions" custom views.

Mambu allows performing "Payment Made" transactions via API, as well as reversals for it, the transaction type being added to the available types for POSTing transactions via API.

With the following phases, Mambu will add more functionality for the new product type, such as allowing to perform withdrawals from the available Redraw Balance, allowing to link to a deposit account and offset interest against it, allowing taxes and capturing the Offset Benefit (ie, the amount by which the loan interest was reduced).

 **Note:** Please note that "Offset Loans" is a Mambu feature that is disabled by default for organisations. Should you wish to have this product type available in your organisation please contact your Account Manager.

Reference: APP-601 and APP-629

Deposits

2.7 End of Day Balance interest calculation

A new interest calculation method was added for savings products for positive interest based on the end of day balance.

What Account Balance is Used for Calculations?

End of Day Balance ▼

Maximum Balance used for Interest Calculation

\$

When this method is selected, a new option Maximum Balance used for Interest Calculation is displayed. If specified, when the EoD balance is greater than the maximum balance set in the product, the accrued interest will

be calculated based on the maximum balance, otherwise, it will be calculated based on EoD balance.

As per the regulatory requirements, organisations need to calculate the interest based on the previous end of day balance.

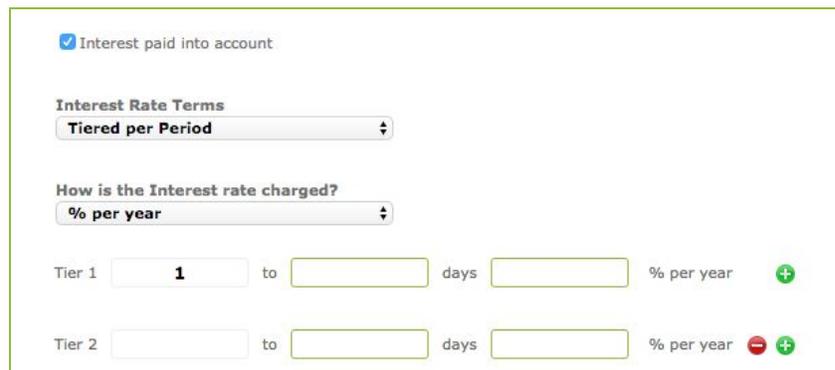
References: APP- 464

2.8 Tiered Interest Rate based on Period

Mambu has added "Tiered Interest Rate per Period" for Deposit products, therefore when configuring your product, you will be able to select "Tiered per Period" under "Interest Rate Term" section.

This option allows the user to add multiple rates based on various periods from day 1 to a customisable number of days.

The tiers can only be defined at product level, however when creating a deposit account, the tiers can be viewed as well.



The screenshot shows a configuration form for interest rate terms. At the top, there is a checked checkbox labeled "Interest paid into account". Below this, the "Interest Rate Terms" dropdown menu is set to "Tiered per Period". Underneath, the "How is the Interest rate charged?" dropdown menu is set to "% per year". There are two tier configuration rows: "Tier 1" with a starting value of "1" and a plus icon, and "Tier 2" with empty input fields and both minus and plus icons.

When calculating the interest for an account working with period tiers, Mambu will calculate it based on the tiers using the starting and ending days configured on the product. Mambu will log an "interest Rate Changed" transaction every time the account goes from one tier to the next, as done with "Tiers per Balance" currently.

When changes are made over the interest rate settings, the user can chose to apply the changes on existing accounts as well. If the user selects to update existing accounts, on the next cron execution, Mambu will update the positive interest tiers from the account with the ones from the product and will log an Interest Rate Changed non financial transaction.

References: APP-655

3. Other Changes

3.1 Minor Improvements

- [MBU-17643] - No activity is logged after resending a failed manual notification
- [MBU-17071] - Rename Payment Plan product type into Interest-Free Loan
- [MBU-16934] - Capture Redraw Balance for all transactions under Details
- [CORE-167] - Allow selecting the current day and generate the balances for the current day in Trial Balance - opening balance report

3.2 Bug Fixes

- [MBU-17723] - Members are removed from Group when PATCHing it by changing different allowed parameters
- [MBU-17620] - Instant timeout when using "Principal Payment Amount" column in a Deposit custom view
- [MBU-17480] - Unable to create a loan having Unique Text Custom Field value on Transaction Channel, after the same value has been used for another deleted loan
- [MBU-17253] - Custom view results are not returned correctly when combining Between filter operator with Before/After
- [MBU-16831] - "Interest Rate Source" option can be changed at the product level for the products with active loan accounts
- [MBU-16700] - The last installment is increased instead of the due one on accounts with Optimized Payments, RNI method and Increase Overdue Installments with Late installments
- [MBU-15588] - Repayment transactions from UI or API lead to invalid payment distribution when paying all the principal balance
- [MBU-13512] - Edit Securities can be performed on closed loan accounts
- [MBU-12876] - Captcha is displayed only for existent usernames - username is confirmed
- [MBU-12353] - Users without View Documents permission can see the list of ID Documents attached to a client profile
- [MBU-18834] - "Index out of bounds exception" error is generated when importing an account with penalties transactions
- [MBU-17191] - Attachments are still displayed for accounts and Journal Entries even if Documents feature is disabled
- [MBU-17148] - Grace Period field is 0 by default in the loan account store form, although no default value is set on product
- [MBU-17482] - Exception thrown when editing a loan/savings transaction by adding a longer note than 255 characters
- [MBU-17006] - Account remains in an inconsistent state when locking interest application

3.3 Technical Tasks

- [MBU-17711] - Loan Accounts Custom View slow performance while adding Anticipated disbursement date as a filter
- [MBU-16783] - Bad performance querying notificationmessage table - causing high cpu load on RDS
- [MBU-14788] - Replace the Risk Report monitoring component with the one created for background machine processing
- [MBU-18138] - Add Match Filter selector for Credit Arrangement custom views

4. API Enhancements

Mambu has been implementing *new* API endpoints such as the two examples below as part our API 2.0 initiative which we'll make available to a few select customers after the 5.0 release.

You'll receive a separate email announcement with more details about API 2.0 and how you can request access in the coming weeks.

4.1 Set Credit Arrangement State

Mambu allows changing the state of a Credit Arrangement via API 2.0 endpoint:

```
/api/creditarrangements/{CREDIT_ARRANGEMENT_ID}/action
```

4.2 Working with Payment Plan method on Fixed Loans

Mambu offers API support for fixed loans that will use the new method Payment Plan, detailed above under chapter "Periodic Payment for Payment Plan method on Fixed Loan Accounts".

You will be able to GET fixed loan accounts as well as products with Payment Plan, edit payment plan details via PATCH and edit Fixed Loan accounts with Payment Plan via PUT, using API 2.0 endpoint:

```
/api/loans/{loan_ID}
```

5. Database and Other Changes

Database Changes

LoanProduct

- Added CAPPINGAPPLYACCRUEDCHARGESBEFORELOCKING
- Removed DECLININGBALANCEPREPAYMENTRECALCULATION,

LoanAccount

- Added INTERESTFROMARREARSACCRUED, INTERESTFROMARREARSDUE, INTERESTFROMARREARSPAID, INTERESTFROMARREARSBALANCE
- Removed DECLININGBALANCEPREPAYMENTRECALCULATION

LoanTransaction

- Added INTERESTFROMARREARSAMOUNT, TAXONINTERESTFROMARREARSAMOUNT

SavingsProduct

- Added MAXIMUMBALANCE

InterestRateTier

- Added ENDINGDAY

LineOfCredit

- Added SUBSTATE, APPROVEDDATE,

GeneralSettings

- Added DEFAULTLINEOFCREDITSTATE

BackgroundTask

- Added INPUT, RESULT

Label Changes

- "Tiered" was changed to "Tiered per Balance" for deposit products using Interest Rate Terms