

4.8.4 CAMT: Conditions of payment

 Language: [Deutsch](#) · [English](#)

4.8.4 CAMT: Conditions of payment

Conditions of payment – part of the CAMT Nuclet documentation (import and processing of CAMT.053/CAMT.054 bank statements (Cash Management)).

HOW-TO

INTEGRATORS

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APPLIES TO NUCLOS 4.2026.X

On this page

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Machine-translated – under review

This page was machine-translated from German as a first draft and is currently under review. The authoritative source remains the **German original** (see the language switch above).

The check of whether conditions of payment (incoming payment, total amount received, cash discount condition) are met is implemented in the Java rule `org.nuclet.camt.rule.CheckBankTransactionRef`. In this rule, the prioritization of the conditions of payment to be checked is defined, and when the conditions of payment are met, a state change is initiated on the reference object (or reference objects).

More about the graded checking procedure that is implemented by default is in [section 2](#) can be found.

`org.nuclet.camt.rule.CheckBankTransactionRef`

```
package org.nuclet.camt.rule;

import java.util.ArrayList;
import java.math.BigDecimal;
import java.util.Calendar;
import java.util.Collections;
import java.util.Date;
import java.util.GregorianCalendar;
import java.util.List;

import org.nuclos.api.annotation.Rule;
import org.nuclos.api.businessobject.BusinessObject;
import org.nuclos.api.context.RuleContext;
import org.nuclos.api.context.UpdateContext;
import org.nuclos.api.exception.BusinessException;
import org.nuclos.api.provider.BusinessObjectProvider;
import org.nuclos.api.provider.QueryProvider;
import org.nuclos.api.provider.StateModelProvider;
import org.nuclos.api.rule.UpdateFinalRule;
import org.nuclos.api.statemodel.State;

import org.nuclet.common.rule.AbstractRule;

import org.nuclet.camt.BankTransaction;
import org.nuclet.camt.BankTransactionRef;
import org.nuclet.camt.CreditDebitIndicator;
import org.nuclet.camt.comparator.BankTransactionRefComparator;
import org.nuclet.camt.facade.AbstractReferenceFacade;
import org.nuclet.camt.facade.ReferenceFacadeFactory;
import org.nuclet.camt.logic.CAMT054Logic;
import org.nuclet.camt.statemodel.ReferenceStateModel;
import org.nuclet.camt.wrapper.AbstractConditionsOfPaymentWrapper;
import org.nuclet.camt.wrapper.AbstractReferenceWrapper;
```

```

/**
 * @name CheckBankTransactionRef
 * @description Checks if the changes done to the given bank transaction should result in subsequent changes on
its references
 * @usage
 * @change
 *
 *
 * @version 1.0
 * @date 18.02.2015
 * @nuclet org.nuclet.CAMT
 * @nucletversion 1.0.0
 * @sincenucletversion 1.0.0
 * @since 18.02.2015
 * @author frank.lehmann@nuclos.de
 *
 */
@Rule(name="CheckBankTransactionRef", description="Checks if the changes done to the given bank transaction
should result in subsequent changes on its references")
public class CheckBankTransactionRef extends AbstractRule implements UpdateFinalRule
{
    private static final BigDecimal BGD_ONEHUNDRED = new BigDecimal("100.0");

    // facades
    protected AbstractReferenceFacade referenceFacade = null;

    // private and protected values
    private List<State> lstSourceStates = null;
    private State stateDestinationState = null;

    public void initialize(RuleContext context) throws BusinessException
    {
        super.initialize(context);

        this.referenceFacade = ReferenceFacadeFactory.getInstance();

        if (this.referenceFacade == null) {
            throw new BusinessException("Method Instance() in org.nuclet.mt940.facade.ReferenceFacadeFactory
does not return a CurrencyFacade instance (940.472.001)!");
        }

        this.lstSourceStates = referenceFacade.getSourceStates(ReferenceStatemodel.StateChange.PaymentReceived);
        this.stateDestinationState = referenceFacade.getDestinationState(ReferenceStatemodel.StateChange.
PaymentReceived);

        if (this.lstSourceStates == null || lstSourceStates.size() == 0) {
            throw new BusinessException("No source states defined in \"" + referenceFacade.getClass()
+ "\" for ReferenceStatemodel.StateChange.PaymentReceived (CMT.473.001)!");
        }

        if (this.stateDestinationState == null) {
            throw new BusinessException("No destination state defined in \"" + referenceFacade.getClass()
+ "\" for ReferenceStatemodel.StateChange.PaymentReceived (CMT.473.002)!");
        }
    }

    public void updateFinal(UpdateContext context) throws BusinessException
    {
        initialize(context);

        checkReferences(context);
    }

/**
 * Check, if the changes done to the given bank transaction should result in further
 * changes and/or state changes of the references <code>BusinessObject</code>
 *
 * @param context the current context
 *
 * @throws BusinessException, in case an error or exception occurs

```

```

    */
private void checkReferences(UpdateContext context) throws BusinessException
{
    final BankTransaction boBankTransaction = context.getBusinessObject(BankTransaction.class);
    final List<BankTransactionRef> lstReferences = boBankTransaction.getBankTransactionRef();

    for (final BankTransactionRef ref : lstReferences) {
        final Long lngReferenceId = ref.getReferenceId();
        final AbstractReferenceWrapper reference = referenceFacade.getById(lngReferenceId);
        final List<Integer> lstSourceStateNumbers = new ArrayList<Integer>();

        for (final State state : lstSourceStates) {
            lstSourceStateNumbers.add(Integer.valueOf(state.getNumeral()));
        }

        if (lstSourceStateNumbers.contains(reference.getNuclosStateNumber())) {
            Date datPaymentDate = checkFirstPriorityConditions(boBankTransaction, reference);

            if (datPaymentDate == null) {
                datPaymentDate = checkSecondAndThirdPriorityConditions(reference);
            }

            if (datPaymentDate != null) {
                final State stateDestinationState = referenceFacade.getDestinationState(ReferenceStatemodel.
StateChange.PaymentReceived);

                reference.setPaymentDate(datPaymentDate);
                BusinessObjectProvider.update((BusinessObject)reference.getBusinessObject());
                StatemodelProvider.changeState(reference.getBusinessObject(),
stateDestinationState);
            }
        }
    }
}

/**
 * Checks, if the first priority conditions have been fulfilled, i.e.
 *
 * 1a. the reference is marked as "accept first incoming payment"
 * and
 * 1b. an incoming payment has been assigned
 *
 * @param boBankTransaction A <code>BusinessObject</code> of type <code>BankTransaction</code>
 * @param reference An object of type <code>AbstractReferenceWrapper</code>, encapsulating the
 * reference object (client billing, invoice, etc.)
 *
 * @return The payment date, if the reference is marked as "accept first incoming payment" and
 * an incoming payment has been assigned
 */
private Date checkFirstPriorityConditions(final BankTransaction boBankTransaction, final
AbstractReferenceWrapper reference)
{
    final Long lngCreditDebitIndicatorId = boBankTransaction.getCreditDebitIndId();
    final CreditDebitIndicator boCreditDebitIndicator = QueryProvider.getById(CreditDebitIndicator.class,
lngCreditDebitIndicatorId);

    if (boCreditDebitIndicator.getSign().intValue() > 0 && reference.getAcceptFirstIncomingPayment()) {
        return boBankTransaction.getBookingDate();
    } else {
        return null;
    }
}

/**
 * Checks, if the second or third priority conditions have been fulfilled, i.e.
 *
 * 2. the reference's total amount has been balanced by incoming payments
 */

```

```

* or
*
* 3. the cash discount conditions are met
*
* @param reference An object of type <code>AbstractReferenceWrapper</code>, encapsulating the
* reference object (client billing, invoice, etc.)
*
* @return The payment date, if the second or third priority conditions have been fulfilled, i.e.
*
* @throws BusinessException 940.472.001
*/
private Date checkSecondAndThirdPriorityConditions(final AbstractReferenceWrapper reference) throws
BusinessException
{
    final List<BankTransactionRef> lstBankTransactionRef = reference.getBankTransactionRef();
    final AbstractConditionsOfPaymentWrapper conditionsOfPayment = reference.getConditionsOfPayment();
    Calendar calCashDiscountLimit = null;
    Calendar calExtendedCashDiscountLimit = null;
    BigDecimal bgdTotalAmountDiscounted = BigDecimal.ZERO;
    BigDecimal bgdExtendedTotalAmountDiscounted = BigDecimal.ZERO;

    if (conditionsOfPayment != null && conditionsOfPayment.getCashDiscount() != null) {
        // Calculate ...
        // - the discounted amount to be payed and
        // - the time limit for cash discounts,
        //
        // ...in case a cash discount is defined in the conditions of payment...
        //
        bgdTotalAmountDiscounted = reference.getTotalAmountGross().subtract(
            reference.getTotalAmountGross().multiply(conditionsOfPayment.getCashDiscount()).divide
            (BGD_ONEHUNDRED, 10, BigDecimal.ROUND_HALF_UP)
        );

        if (conditionsOfPayment.getCashDiscountPeriod() != null) {
            calCashDiscountLimit = new GregorianCalendar();
            calCashDiscountLimit.setTime(reference.getDateOfInvoice());
            calCashDiscountLimit.add(Calendar.DAY_OF_YEAR, conditionsOfPayment.getCashDiscountPeriod());

            if (conditionsOfPayment.getCashDiscountExGratiaDays() != null
                && conditionsOfPayment.getCashDiscountExGratiaDays().intValue() > 0) {
                calCashDiscountLimit.add(Calendar.DAY_OF_YEAR, conditionsOfPayment.
getCashDiscountExGratiaDays());
            }
        }

        if (conditionsOfPayment.getExtendedCashDiscount() != null) {
            // If an extended cash discount is also given, calculate those values for the extended period
            too...

            if (conditionsOfPayment.getExtendedCashDiscountPeriod() != null) {
                calExtendedCashDiscountLimit = new GregorianCalendar();
                calExtendedCashDiscountLimit.setTime(reference.getDateOfInvoice());
                calExtendedCashDiscountLimit.add(Calendar.DAY_OF_YEAR, conditionsOfPayment.
getExtendedCashDiscountPeriod());

                if (conditionsOfPayment.getCashDiscountExGratiaDays() != null
                    && conditionsOfPayment.getCashDiscountExGratiaDays().intValue() > 0) {
                    calCashDiscountLimit.add(Calendar.DAY_OF_YEAR, conditionsOfPayment.
getCashDiscountExGratiaDays());
                }
            }

            bgdExtendedTotalAmountDiscounted = reference.getTotalAmountGross().subtract(
                reference.getTotalAmountGross().multiply(conditionsOfPayment.getExtendedCashDiscount()).
divide(BGD_ONEHUNDRED, 10, BigDecimal.ROUND_HALF_UP)
            );
        }
    }

    if (lstBankTransactionRef != null) {
        Collections.sort(lstBankTransactionRef, new BankTransactionRefComparator());
    }
}

```

```

Date datPaymentDate = null;
Date datDiscountedPaymentDate = null;
Date datExtendedDiscountedPaymentDate = null;
boolean bHasReferenceAmountBeenBalanced = false;
boolean bHasDiscountedReferenceAmountBeenBalanced = false;
boolean bHasExtendedDiscountedReferenceAmountBeenBalanced = false;
BigDecimal bgdTotalPaymentAmount = BigDecimal.ZERO;

for (final BankTransactionRef boBankTransactionRef : lstBankTransactionRef) {
    final Long lngOtherBankTransactionId = boBankTransactionRef.getBankTransactionId();
    final BankTransaction boOtherBankTransaction = QueryProvider.getById(BankTransaction.class,
lngOtherBankTransactionId);
    final Long lngOtherCreditDebitIndicatorId = boOtherBankTransaction.getCreditDebitIndId();
    final CreditDebitIndicator boOtherCreditDebitIndicator = QueryProvider.getById
(CreditDebitIndicator.class, lngOtherCreditDebitIndicatorId);

    if (boOtherCreditDebitIndicator.getSign().intValue() > 0) {
        bgdTotalPaymentAmount = bgdTotalPaymentAmount.add(boOtherBankTransaction.getAmount());

        if (!bHasReferenceAmountBeenBalanced &&
            bgdTotalPaymentAmount.doubleValue() >= reference.getTotalAmountGross().doubleValue()) {
            bHasReferenceAmountBeenBalanced = true;
            datPaymentDate = boOtherBankTransaction.getBookingDate();
        }

        if (!bHasDiscountedReferenceAmountBeenBalanced &&
            !BigDecimal.ZERO.equals(bgdTotalPaymentAmount) &&
            bgdTotalPaymentAmount.doubleValue() >= bgdTotalPaymentAmount.doubleValue()) {
            bHasDiscountedReferenceAmountBeenBalanced = true;
            datDiscountedPaymentDate = boOtherBankTransaction.getBookingDate();
        }

        if (!bHasExtendedDiscountedReferenceAmountBeenBalanced &&
            !BigDecimal.ZERO.equals(bgdTotalPaymentAmount) &&
            bgdTotalPaymentAmount.doubleValue() >= bgdTotalPaymentAmount.doubleValue()) {
            bHasExtendedDiscountedReferenceAmountBeenBalanced = true;
            datExtendedDiscountedPaymentDate = boOtherBankTransaction.getBookingDate();
        }
    } else {
        bgdTotalPaymentAmount = bgdTotalPaymentAmount.subtract(boOtherBankTransaction.getAmount());

        if (bHasReferenceAmountBeenBalanced &&
            bgdTotalPaymentAmount.doubleValue() < reference.getTotalAmountGross().doubleValue()) {
            bHasReferenceAmountBeenBalanced = false;
            datPaymentDate = null;
        }

        if (bHasDiscountedReferenceAmountBeenBalanced &&
            !BigDecimal.ZERO.equals(bgdTotalPaymentAmount) &&
            bgdTotalPaymentAmount.doubleValue() < bgdTotalPaymentAmount.doubleValue()) {
            bHasDiscountedReferenceAmountBeenBalanced = false;
            datDiscountedPaymentDate = null;
        }

        if (bHasExtendedDiscountedReferenceAmountBeenBalanced &&
            !BigDecimal.ZERO.equals(bgdTotalPaymentAmount) &&
            bgdTotalPaymentAmount.doubleValue() < bgdTotalPaymentAmount.doubleValue()) {
            bHasExtendedDiscountedReferenceAmountBeenBalanced = false;
            datExtendedDiscountedPaymentDate = null;
        }
    }
}

if (bgdTotalPaymentAmount.doubleValue() >= reference.getTotalAmountGross().doubleValue()) {
    return datPaymentDate;
} else if (bgdTotalPaymentAmount.doubleValue() < reference.getTotalAmountGross().doubleValue()
    && datDiscountedPaymentDate != null && calCashDiscountLimit != null
    && datDiscountedPaymentDate.before(calCashDiscountLimit.getTime())) {
    return datDiscountedPaymentDate;
} else if (bgdTotalPaymentAmount.doubleValue() < reference.getTotalAmountGross().doubleValue())

```

```
        && datExtendedDiscountedPaymentDate != null && calExtendedCashDiscountLimit != null
        && datExtendedDiscountedPaymentDate.before(calExtendedCashDiscountLimit.getTime())) {
            return datExtendedDiscountedPaymentDate;
        } else {
            return null;
        }
    } else {
        return null;
    }
}
```

Related pages

Nuclet: CAMT (available in the trade Nuclet)

CAMT Nuclet data sheet

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Interfaces

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