```
CREATE TABLE `fi_kx` (
  `series` bigint(20) NOT NULL DEFAULT '0' COMMENT '行号',
 `tenant_num_id` bigint(20) DEFAULT '0' COMMENT '租户ID',
  `create_dtme` datetime DEFAULT CURRENT_TIMESTAMP COMMENT '创建时间',
 `last_updtme` datetime DEFAULT CURRENT_TIMESTAMP COMMENT '最后更新时间',
 `create_user_id` bigint(20) DEFAULT '0' COMMENT '用户',
 `last update user id` bigint(20) DEFAULT '0' COMMENT '更新用户',
  `cancelsign` <mark>char(1</mark>)    DEFAULT 'N' COMMENT '删除',
 `insertdata` char(1) DEFAULT 'Y' COMMENT '新增',
 `updatedata` char(1) DEFAULT 'N' COMMENT '更新',
 `iscfp` tinyint(4) DEFAULT '1' COMMENT '是否冲发票',
 `kx num id` bigint(20) DEFAULT '0' COMMENT '扣项代码',
  `kx_name` varchar(225) DEFAULT ' ' COMMENT '扣项名称',
 `kx_type` tinyint(4) DEFAULT '1' COMMENT '扣项类型',
 `accno` varchar(255) DEFAULT ' ' COMMENT '对应科目',
 `direction` tinyint(4) DEFAULT '0' COMMENT '科目方向',
 `kx_kk_type` tinyint(4) DEFAULT '0' COMMENT '扣项交款标志',
  `calc_flag` <mark>tinyint(4</mark>)    DEFAULT <mark>'0'    COMMENT '计算标志',</mark>
 `fee_type` tinyint(4) DEFAULT '0' COMMENT '费用类型',
 `income_type` tinyint(4) DEFAULT '0' COMMENT '收入类型',
 `fraction` tinyint(4) DEFAULT '0' COMMENT '扣项金额',
 `tax_rate` decimal(10,2) DEFAULT '0.00' COMMENT '税率',
  `sales_return_flag` <mark>tinyint(4</mark>)    DEFAULT '2'    COMMENT '退货处理标记: 0-忽略, 1-增加, 2-扣减',
 `apply flag` tinyint(4) DEFAULT '0' COMMENT '应用标识: 0-总部+门店,1-仅总部,2-仅门店',
 `auto_delay_flag` <mark>tinyint(4</mark>)    DEFAULT '0' COMMENT '是否自动延期: 0-否, 1-是',
 PRIMARY KEY (`series`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

固定扣项计算:

```
com.ykcloud.soa.erp.api.fi.service.FiKxService.calcKx
com.ykcloud.soa.erp.fi.service.impl.calcKx
```

1. 打印日志消息

2. 参数校验

```
1 request.validate(Constant.SUB_SYSTEM, ErpExceptionType.VCE13006);
```

3. 获取请求参数信息

4. 生成lockKey

```
StringBuilder sb = new StringBuilder("ykcloud.fi.kx.gen_");
sb.append(tenantNumId).append("_").append(dataSign).append("_").append(subUnitNumId
).append("_")
append(DateUtils.format(sellDate));
String distributedLockKey = sb.toString();
```

5. 加锁

```
lock = new RedisLock(stringRedisTemplate, distributedLockKey, 60 * 20);
if (!lock.lock()) {
throw new ValidateBusinessException(Constant.SUB_SYSTEM,ErpExceptionType.VBE23006,
"结算门店: " + subUnitNumId + ", 日结日期: " + DateUtils.format(sellDate) + "的供应商
扣项正在生成中,请稍候...");
}
```

6. 判断新方案是否已配置启用日期

```
String kxSwitchDateVal = fiInnerService.getConfigValue(tenantNumId, dataSign, "kx_switch_date");
if (StringUtils.isBlank(kxSwitchDateVal)) {
throw new ValidateBusinessException(Constant.SUB_SYSTEM, ErpExceptionType.VBE23006,"请先配置新的扣项计算方案的启用日期[参数:kx_switch_date]! ");
}
```

7. 生成新的扣项计算方案启用日期

8. 查询扣项政策,不分门店、大类,生成的结果还是要区分到门店、大类、部类、供应商 (重复维护的扣项政策取审核日期最近的)

```
1 List<VenderKx> kxList;
2 List<Long> applyFlagList = new ArrayList<>();
3 applyFlagList.add(KxApplyFlagEnum.HEAD_AND_SHOP.getValue());
4 // 获取总部编号
5 Long headSubUnitNumId = fiInnerService.getHeadSubUnitNumId(tenantNumId, dataSign, subUnitNumId).getHeadSubUnitNumId();
```

```
if (headSubUnitNumId.equals(subUnitNumId)) {
    // 总部
    applyFlagList.add(KxApplyFlagEnum.ONLY_HEAD.getValue());
} else {
    // 门店
    applyFlagList.add(KxApplyFlagEnum.ONLY_SHOP.getValue());
}

// 忽略政策失效日期
kxList = fiVenderKxDtlDao.findKxListWithoutExpired(tenantNumId, dataSign, sellDate, applyFlagList);
```

9. 遍历计算每一个扣项

• 查询扣项完整信息

获取扣项计算方法(按月,年或季度)和扣项类型(按销售收入,销售成本,验收成本,净收货成本或验收件数)

• 得到计算周期清单,从生效日期开始逐期计算,差异部分需要生成差异扣 项

```
Date kxEndDate = DateUtils.daysBetween(sellDate, kx.getEndDate()) >= 0 ?
sellDate : (KxAutoDelayFlagEnum.fromValue(kx.getAutoDelayFlag()) ==
KxAutoDelayFlagEnum.YES ? sellDate : kx.getEndDate());
List<DatePeriod> periodList = this.getPeriodList(kx.getBeginDate(), kxEndDate, KxStyleEnum.fromValue(kx.getKxStyle()));
```

```
private List<DatePeriod> getPeriodList(Date beginDate, Date sellDate,
        List<DatePeriod> periodList = new ArrayList<>();
        case MONTHLY:
            Date monthEndDate =
                DatePeriod period = new DatePeriod();
.parse(DateUtils.format(DateUtils.getEndDateTimeOfMonth(DateUtils.addMont
           break;
        case QUARTERLY:
eOfQuarter(beginDate)));
                DatePeriod period = new DatePeriod();
com.ykcloud.soa.erp.common.utils.DateUtils.getStartDateTimeOfQuarter(quar
terlyEndDate));
DateUtils.parse(DateUtils.format(com.ykcloud.soa.erp.common.utils.DateUti
.getEndDateTimeOfQuarter(DateUtils.addMonths(quarterlyEndDate, 3))));
           break:
        case PER YEAR:
eOfYear(beginDate)));
           while (DateUtils.daysBetween(yearEndDate, sellDate) >= 0) {
                DatePeriod period = new DatePeriod();
period.setBeginDate(com.ykcloud.soa.erp.common.utils.DateUtils.getStartDa
teTimeOfYear(yearEndDate));
                period.setEndDate(yearEndDate);
                periodList.add(period);
                yearEndDate =
```

```
.getEndDateTimeOfYear(DateUtils.addMonths(yearEndDate, 12))));
46      }
47      break;
48    }
49      return periodList;
50 }
```

- 遍历计算周期清单,如果周期的结束日期小于等于日结日期,代表已经可以计算
- 如果周期的结束日期大于等于启用日期,按新的计算方案处理,否则按原来的计算方案处理

- 如果扣项政策有误,无法统计业务发生额,一个周期都没有计算(发生异常)
- 保存扣项计算日志 fi_vender_kx_log

```
this.saveKxCalcLog(kx, kxResult);
    private void saveKxCalcLog(VenderKx kx, VenderKxResult kxResult) {
            FI_VENDER_KX_LOG kxLog = new FI_VENDER_KX_LOG();
            kxLog.setTENANT_NUM_ID(kx.getTenantNumId());
            kxLog.setDATA_SIGN(kx.getDataSign());
            kxLog.setSUB_UNIT_NUM_ID(kxResult.getSubUnitNumId());
            kxLog.setSUPPLY_UNIT_NUM_ID(kx.getSupplyUnitNumId());
            kxLog.setKX_NUM_ID(kx.getKxNumId());
            kxLog.setRESERVED ID(kx.getReservedId());// 政策单号
            kxLog.setKX_TYPE(kx.getKxType());
            kxLog.setKX_DIRECTION(kx.getKxDirection());
            kxLog.setKX_KK_TYPE(kx.getKxKkType());
            kxLog.setKX_STYLE(kx.getKxStyle());
            kxLog.setRANGE1(KxRangeEnum.PTY NUM 1.getValue());
13
            kxLog.setRANGE_ID(kxResult.getPtyNum1());
            kxLog.setCALCULATE_DATE(kxResult.getCalculateDate());
            kxLog.setBEGIN_DATE(kxResult.getBeginDate());
            kxLog.setEND DATE(kxResult.getEndDate());
            kxLog.setBUSINESS_AMOUNT(kxResult.getBusinessAmount());
            kxLog.setKX_AMOUNT(kxResult.getKxAmount());
            kxLog.setSUCCESS_SIGN(kxResult.getSuccessSign());
            kxLog.setCUT_SAVE_SIGN(kxResult.getCutSaveSign());
            kxLog.setREMARK(kxResult.getRemark());
            kxLog.setCREATE_USER_ID(kxResult.getUserNumId());
            kxLog.setLAST UPDATE USER ID(kxResult.getUserNumId());
            kxLog.setCUT_RESERVED_NO(kxResult.getCutReservedNo());
```

10. 新的计算方案 calcKxNew

• 获取门店业务发生额(按大类分组) getBusinessAmountByPtyNum1List

```
1 List<BusinessAmountBySubUnitAndPtyNum1>
  businessAmountBySubUnitAndPtyNum1List =
  this.getBusinessAmountByPtyNum1List(tenantNumId, dataSign, subUnitNumId,
  kx, kxType, period);
```

统计来源是销售出库日报的情况

```
period.getEndDate()) > 0) {
                       throw new
ValidateBusinessException(Constant.SUB_SYSTEM, ErpExceptionType.VBE23006,
                            "检测到编号为: " + subSubUnitNumId + "的门店尚
未日结完成!");
                   List<BusinessAmountBySubUnitAndPtyNum1>
businessAmountByPtyNum1List =
this.countSalesDirectWayAndDistributionGroupByPtyNum1(kx,
                       period.getBeginDate(), period.getEndDate());
businessAmountBySubUnitAndPtyNum1List.addAll(businessAmountByPtyNum1List)
               List<BusinessAmountBySubUnitAndPtyNum1>
businessAmountByPtyNum1List = this.countSalesByPtyNum1(kx, subUnitNumId,
period.getBeginDate(),
                   period.getEndDate());
businessAmountBySubUnitAndPtyNum1List.addAll(businessAmountByPtyNum1List)
                List<BusinessAmountBySubUnitAndPtyNum1>
businessAmountByPtyNum1List = this.countSalesDirectSendByPtyNum1(kx,
subUnitNumId, period.getBeginDate(),
                   period.getEndDate());
businessAmountBySubUnitAndPtyNum1List.addAll(businessAmountByPtyNum1List)
```

查自己的验收单

```
else if (kxType == KxTypeEnum.RECEIPT_COST) {// 查自己的验收单

List<BusinessAmountBySubUnitAndPtyNum1> businessAmountByPtyNum1List =
    this.countReceiptCostByPtyNum1(kx, subUnitNumId, period.getBeginDate(),
    period.getEndDate());

businessAmountBySubUnitAndPtyNum1List.addAll(businessAmountByPtyNum1List);

}
```

• 查询扣项的计算规则

• 调用扣项计算方法得到扣项金额

• 生成扣项结果

• 汇总之前的结果进行比较,判断是否需要进行补差

```
1 Double originalAmount = fiVenderKxLogDao.countKxAmount(tenantNumId,
```

• 发生日志,保存扣项计算日志

```
private void saveKxCalcLog(VenderKx kx, VenderKxResult kxResult) {
    FI_VENDER_KX_LOG kxLog = new FI_VENDER_KX_LOG();
    kxLog.setTENANT_NUM_ID(kx.getTenantNumId());
    kxLog.setDATA_SIGN(kx.getDataSign());
    kxLog.setSUB_UNIT_NUM_ID(kxResult.getSubUnitNumId());
    kxLog.setSUPPLY_UNIT_NUM_ID(kx.getSupplyUnitNumId());
    kxLog.setKX_NUM_ID(kx.getKxNumId());
    kxLog.setRESERVED_ID(kx.getReservedId());// 政策单号
    kxLog.setKX_TYPE(kx.getKxType());
    kxLog.setKX_DIRECTION(kx.getKxDirection());
    kxLog.setKX_KK_TYPE(kx.getKxKkType());
    kxLog.setKX_STYLE(kx.getKxStyle());
```

```
13
            kxLog.setRANGE1(KxRangeEnum.PTY_NUM_1.getValue());
            kxLog.setRANGE_ID(kxResult.getPtyNum1());
15
            kxLog.setFLAGTYPE(0L);// 废弃
            kxLog.setCALCULATE_DATE(kxResult.getCalculateDate());
            kxLog.setBEGIN_DATE(kxResult.getBeginDate());
            kxLog.setEND_DATE(kxResult.getEndDate());
            kxLog.setBUSINESS_AMOUNT(kxResult.getBusinessAmount());
            kxLog.setKX_AMOUNT(kxResult.getKxAmount());
            kxLog.setSUCCESS_SIGN(kxResult.getSuccessSign());
21
            kxLog.setCUT_SAVE_SIGN(kxResult.getCutSaveSign());
            kxLog.setREMARK(kxResult.getRemark());
23
            kxLog.setCREATE_USER_ID(kxResult.getUserNumId());
            kxLog.setLAST_UPDATE_USER_ID(kxResult.getUserNumId());
            kxLog.setCUT_RESERVED_NO(kxResult.getCutReservedNo());
```

供应商固定扣项维护单

com.ykcloud.soa.erp.fi.service.model.VenderKx

fi_vender_kx_hdr

```
CREATE TABLE `fi_vender_kx_hdr` (
  `series` <mark>bigint(20</mark>) NOT NULL DEFAULT '0' COMMENT '行号',
 `tenant_num_id` bigint(20) DEFAULT '0' COMMENT '租户ID',
  'data_sign` <mark>tinyint(4)</mark>    DEFAULT '0' COMMENT '测试标识',
 `create_user_id` bigint(20) DEFAULT '0' COMMENT '用户',
 `last_update_user_id` bigint(20) DEFAULT '0' COMMENT '更新用户',
  `cancelsign` <mark>char(1</mark>)    DEFAULT 'N' COMMENT '删除',
 `insertdata` <mark>char(1</mark>) DEFAULT <mark>'Y' COMMENT '新增',</mark>
  `updatedata` <mark>char(1</mark>)    DEFAULT 'N' COMMENT '更新',
 `audit_updtme` <mark>datetime</mark>    DEFAULT CURRENT_TIMESTAMP    COMMENT '审核日期',
  `audit_user_id` <mark>bigint(20</mark>)    DEFAULT <mark>'0'    COMMENT '审核人',</mark>
 `reserved_id` bigint(20) DEFAULT '0' COMMENT '扣项单号',
 `isclhhzc` tinyint(4) DEFAULT '0' COMMENT '是否处理坏货折扣',
 `isshowhistory` tinyint(4) DEFAULT '0' COMMENT '是否显示历史页',
 `sub_unit_num_id` <mark>bigint(18</mark>)    DEFAULT '0' COMMENT '结算门店',
 `kx no` bigint(20) DEFAULT NULL COMMENT '原扣项单号',
 PRIMARY KEY (`series`),
 UNIQUE KEY `ux_fi_vender_kx_hdr` (`reserved_id`) USING BTREE
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

fi_vender_kx_dtl

```
1 CREATE TABLE `fi_vender_kx_dtl` (
2 `series` bigint(20) NOT NULL DEFAULT '0' COMMENT '行号',
```

```
tenant_num_id` bigint(20) DEFAULT '0' COMMENT '租户ID',
  ˈdata_sign` <mark>tinyint(4</mark>) DEFAULT <mark>'0'</mark> COMMENT '测试标识',
  `sub_unit_num_id` <mark>bigint(18</mark>)    DEFAULT '0' COMMENT '结算门店',
 `create_dtme` datetime DEFAULT CURRENT_TIMESTAMP COMMENT '创建时间',
 `last_updtme` datetime DEFAULT CURRENT_TIMESTAMP COMMENT '最后更新时间',
 `create_user_id` bigint(20) DEFAULT '0' COMMENT '用户',
 `last_update_user_id` bigint(20) DEFAULT '0' COMMENT '更新用户',
 `cancelsign` char(1) DEFAULT 'N' COMMENT '删除',
 `reserved_id` bigint(20) DEFAULT '0' COMMENT '扣项单号',
  `kx_num_id` <mark>bigint(20</mark>)    DEFAULT '0' COMMENT '扣项代码',
 `kx type` tinyint(4) DEFAULT '0' COMMENT '扣项类型',
 `kx_direction` tinyint(4) DEFAULT '0' COMMENT '扣项方向',
 `kx_segment` decimal(22,4) DEFAULT '0.0000' COMMENT '分段开始值',
 `kx_segment_end` decimal(22,4) DEFAULT '0.0000' COMMENT '分段截止值',
  `kx_min_money` decimal(22,4) DEFAULT '0.0000' COMMENT '最小扣项金额',
 `kx percent` decimal(5,2) DEFAULT '0.00' COMMENT '扣项百分比',
 `kx_basemoney` decimal(22,4) DEFAULT '0.0000' COMMENT '比例调整金额',
 `kx_kk_type` tinyint(4) DEFAULT '0' COMMENT '扣项交款标志',
 `kx_style` tinyint(4) DEFAULT '0' COMMENT '计算方法',
 `range1` tinyint(4) DEFAULT '0' COMMENT '扣项范围',
 `end_date` datetime DEFAULT CURRENT_TIMESTAMP COMMENT '结束日期',
 `note` varchar(255) DEFAULT ' ' COMMENT '备注',
  pbasemoney` decimal(22,4) DEFAULT '0.0000' COMMENT 'pbasemoney',
 `flagtype` tinyint(4) DEFAULT '0' COMMENT '0 只落一档 1 只落一档减开始金额 2 多档减开始金额累
计',
 PRIMARY KEY (`series`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```